# DATE OF MAHABHARATA BATTLE

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*By*

S.B. ROY

*Director*

*Institute of Chronology*

New Delhi



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नारायणं नमस्कृत्य
नरञ्च एव नरोत्तमम् ।
देवीं सरस्वतीं व्यासं
ततो जयम् उदीरयेत् ॥

To the young students.

*"Deshe deshe āge jāo evam anek desher avasthā besh kare dekho. Nijer cokhe dekho, parer cokhe naya. Tār par, yadi māthā thake to ghāmāo. Nijeder Puran punthi patha pada. Bharatvarsher desh-deshantar besh kare dekho. Buddhiman panditer cokhe dekho—khaja ahammaker cokhe naya."*

*PRACYA O PASCATYA.*

"Visit other countries and study their conditions well. Look through your own eyes and not through the eyes of others. Then, if you have brains, use them. Read your own literature—the Puranas etc. Visit every corner of India. Study and obse.ıe through the eyes of an intelligent analyst.

Never be a gullible fool."

**Swami Vivekananda**

# Abbreviations :

| | | |
|---|---|---|
| R.V. | = | Rigveda |
| T.S. | = | Taittiriya Samhita |
| Yaj. | = | Shukla Yajurveda |
| M. BH. | = | Mahabharata |
| Ved. Jyot. | = | Vedanga Jyotisha |
| Nir. | = | Nighantu and Nirukta by Yaska |

**English :**

| | | |
|---|---|---|
| AIHT | = | Ancient Indian Historical Tradition *by Pargiter* |
| HASL | = | History of Ancient Sanskrit Literature *by Max Mueller* |
| IHA | = | Introduction to Hindu Astronomy *by Bentley* |
| AI | = | Ancient India, a chronological study, 1500-400 B.C *by S.B. Roy* |
| PLA | = | Prehistoric Lunar Astronomy, *by S.B. Roy* |

**Journals :**

| | | |
|---|---|---|
| AR. | = | Asiatick Researches |
| JRAS | = | Journal of the Royal Asiatic Society |
| JAOS | = | Journal of the American Oriental Society |
| IA | = | Indian Antiquary |
| JBRS | = | Journal of the Bihar Research Society |
| JAHRS | = | Journal of the Andhra Historical Research Society |

# PUBLICATIONS

**Monographs :**

1 Prehistoric Lunar Astronomy, 19000 - 3100 B.C. ...
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7. Aryana, a global study in the protohistorical chronology of Iran, Turan, Afghanistan, Pakistan and North-Western India.

INSTITUTE OF CHRONOLNGY
B-20, Sujan Singh Park
New Delhi

Baudhayana Shrauta sutra (Caland's edition)

XXVIII, 3-9 :—

अथातो नक्षत्रेष्टो व्याख्यास्यामो
अग्निर्वा अकामयतान्नादो देवानां स्यामिति ता ब्राह्मणेन व्याख्याता:
साया वैशाख्या: पौर्णमास्या पुरस्ताद् अमावस्या भवति स सकृत्-
सम्वत्सरस्य अपभरणीभि: संपद्यते, तस्यामारभतेति ।।

XXVI

माघमासे घनिष्टाभिरुत्तरणेति भानुमान् अर्धाश्लेषस्य श्रावणस्य
दक्षिणेणोपनिवर्तते इति काष्ठे भवत: ।।

MAHABHARATA (CRITICAL EDITION), POONA

नारायणं नमस्कृत्य, नरं चैव नरोत्तमम ।।
देवीं सरस्वतीं चैव, ततो जयम् उदीरयेत् ।।
१.१.१ लोमहर्षणपुत्र उग्रश्रवा: सुत: पौराणिको नैमिषारण्ये,
शौनकस्य कुलपतेर्द्वादशवार्षिके सत्रे ।।

(repeated in 1.4.1.)

४.४७ -१-४- विराट पर्व

१. कलांशस्तात युज्यन्ते, मुहूर्ताश्च दिनानि च,
अर्धमासाश्च मासाश्च, नक्षत्राणि ग्रहास्तथा ।।१।।
२. ऋतवश्चापि युज्यन्ते, तथा संवत्सराऽपि.
एवं कालविभागेन, कालचक्रं प्रवर्तते । २।।
३. तेषां कालातिरेकेण, ज्योतिषां च व्यतिक्रमात्,
पचमे पंचमे वर्षे, द्वौ मासौ, उपजायते ।।३।।
४. तेषाम् अभ्यधिका मासा:, पंच द्वादश च क्षपा:
त्रयोदशानां वर्षाणाम्, इति मे वर्तते मति: ।।४।।

उद्योगपर्व

५ १४० १८ सप्तमाच्चापि दिवसाद् अमावास्या भविष्यति,
सग्राम योजयेत्तत्र, ता ह्याहु शक्रदेवताम् ॥१८॥

भीष्मपर्व

३ २ २३ अलक्ष्य प्रभया हीन, पौर्णमासी च कार्तिकीम्,
चन्द्रोऽभूद् अग्निवर्णश्च, समवर्णे नभस्थले ॥२३॥

कर्णपर्व

८ १४. १ प्रत्यागत्य पुनर्जिष्णुर् अहृ ससप्तकान बहून्,
वक्रानुवक्रगमनाद् अ गारक इव ग्रह ॥१॥

शल्यपर्व

६ ३३ ५ चत्वारिंशद् अहान्यद्य, द्वे च मे नि सृतस्य वै,
पुष्येण सम्प्रयातोऽस्मि, श्रवणे पुनरागतः ॥५॥

अनुशासनपर्व

१३ १५३ ५ ५ ऊषित्वा शर्वरी श्रीमान्, पचाशन्नगरोत्तमे,
समय कौरवाग्रयस्य, सस्मार पुरुषर्षभ ॥५॥

भीष्म उवाच –

२६ दिष्ट्या प्राप्तोऽस्मि कौन्तेय, महामात्यो युधिष्ठिर,
परिवृत्तो हि भगवान् सहस्रांशु-दिवाकरः ॥२६॥

२७ अष्टपचाशत रात्र्य, शयानस्य अद्य मे गता,
शरेषु निशिताग्रेषु, यथा वर्षशत तथा ॥२७॥

२८ माघोऽय समनुप्राप्तो, मास पुण्यो युधिष्ठिर,
त्रिभागशेष पक्षोऽय, शुक्लो भवितुम् अर्हति ॥२८॥

For further references, please see A.I pp 152-59

# *Preface*

The analysis considers the comments made on the publication of my book 'Ancient India, A Chronological Study, 1500-400 B.C.'

It is gratifying indeed to note that a country-wide interest was evoked on the focal problem of dating the Mahabharata battle. This opportunity is, therefore, taken to make a comprehensive survey of the entire subject. The theories and techniques of chronology have been given and the merits and weaknesses of the chronology of the Western Indologists analysed in that light, drawing particular attention to the *malaise* of chronological *ankylosis* which has gripped the protohistory of Iran, Gandhara and India.

A brief review of the Vedic chronology is also given in an appendix showing that the middle Vedic age belongs to 2000-1900 B.C. (and not to 1500 B.C. as hitherto taken on good faith), and that a perfectly consistent framework can be erected on that earlier date, satisfying all the canons of the five recognized methods of chronology.

The diacritical marks with romanized spellings have been avoided so that the young students are encouraged to look at the original sanskrit texts in Nagari script in cases of doubt. However, a brief glossary along with the original sanskrit texts have been given for the facility of ready reference.

Europeans say that Indians have no sense of history. Agreed. They themselves, however, have strange fixations, and it is quite amusing to see them solemnly parading ghost stories collected two thousand five hundred years after the events as serious history. The young students of today, not of India alone, but of Turan, Iran, Gandhara, Pakistan (*i.e.,* the whole of

ARYANA) should realise that the time has come to have a second look at their dates, and to brush aside lots of dusty old cobwebs cobwebs of opinions based on no materials - so that the serious task of building a scientific chronology can be undertaken

Young students are invited to join in the fascinating task of rewriting the history and chronology on strictly objective and scientific lin s Chronology is an exact science and the rigorous norms of the exact sciences - including that of veri fiable prediction are to be satisfied in the final goal

I place on record my thanks for the interest shown and active help rendered by all my archaeologist friends, and am indebted in particular to Shri B K Thapar, who has shown a keen interest in the new science of ethno astronomy, because the astronomical observations are self-dating, and hence, of immense interest in archaeology

My thanks are also due to Shri Satyaprakash for seeing the book through the press, and to Miss Rita Roy for editing the manuscript

New Delhi
15th October, 1976

S B Roy

# Contents

# PERSPECTIVES AND HIGHLIGHTS

(Important persons, events, astronological observations, cross-contacts and synchronisms of Indian Protohistory).

## A. Astronomical Observations



## B. Cross-Contacts :

**2000—1900 B.C**



## C. Two Fixed Points of Indian Chronology :



Conclusion : *Date of Mahabharata battle-about 1400 B C.*

# I

# Chronological Methods : *a critique*

There are five different approaches to the problems of historical chronology :—

1. Literary Method
2. Archaeological Method
3. Radiocarbon Technique
4. Astronomical Method and
5. Cross Contacts

In this study all the five methods have been utilized, but it is necessary to know about the merits and demerits—the relative strengths and weaknesses—of the individual methods, in order to give due weight to them in final judgement.

To begin with, it is incorrect to rely solely upon, or to give exclusive reliance to, any *one* method alone, because it immediately develops a subjective and, what is worse, a biased attitude and all the facts are, thereafter, forced into that frame : wherever possible, one method, should therefore, be checked by another.

Different methods will now be individually considered.

**1. Literary Method :** There are three subdivisions of the literary method (1) Literary style method favoured by the philologists (2) Analysis of proper names and (3) Dynastic method.

The literary style method is illustrated by Max Muller's *dicta* for India : he says,

'In the Vedic literature, there : . four styles—*chanda*, *mantra*, *brahmana* and *sutra* which follow one after another'. Two hundred years each are sufficient for the first three, while the fourth requires 400 years. Then followed the continuous

but remember that *once the original synchronism is broken, then all the dates have to be re examined and re fixed*

1 3 Dynastic method The method is statistical and, at best, it gives only an estimate The statistical theory and the fixing up of the upper and the lower margins of tolerance have been discussed elsewhere [1]

In the Indian context, the overall reliability of the Puranic list of 143 kings from 1 Manu to 143 Chandragupta, has already been considered at length in A I pp 105 126 In the present monograph the Puranas have been divided into two sections viz (a) the ancient section (i e the Vyasian section) whose *Vamsanucaritam* (i e dynasties) runs from 1 Manu (3167 B C ) to 96 Parikshit (1424 B C ) and (b) the post Vyasian section It will be shown (vide Chapter III *infra*) that the ancient Vyasian *Vamsanucaritam* is much more reliable than the post Vyasian dynasties of Kali age [2]

Pargiter perhaps realised this difficulty and therefore treated the two periods differently in different books He made no attempt at any synthesis or synchronisation of the dynasties of the Kali age as he did magnificently for the earlier period However he did a great injustice to himself and to the Indian protohistory by declaring the date of the Bharata battle to be 950 B C *on the admittedly unsatisfactory and incomplete dynasties of the second period* viz of the Kali Age It is for this reason that Jaiswal s suggestion of ten missing kings was readily accepted in the A I p 125—6, firstly on the collateral evidence of astronomy and secondly because where the lists are admittedly incomplete statistical theory requires that neither the minimum nor the average should be taken—but only the longest list available should be preferred On the other hand as the Vyasian Vamsas are known to be fairly complete, only the minimum age differential of 18 years per king have been taken therefor

1 S B Roy Chronological Infrastructure of Indian Protohistory—*JBORS* Vol LVIII 1972 pp 44 56

2 All the present workers like Pargiter Pradhan Bhargava Pusalkar Rovchaudhury etc. accept this The European scholars are however wrong in rejecting the Puranas as a whole only for this defect Vyasian ancient Purana can be very satisfactory for relative chronology of the ancient pre—Vyasian dynasties

*The real strength of the dynastic method is that it is indispensable in the analysis of relative chronology. If supplemented by the concept of dynastic numbers as has been done here, it becomes a major semi-quantitative tool in all statistical cum chronological analysis.*

**2. Archaeological Method :** Archaeological dating is done by vertical digging and stratification of the ruins—the lower stratum being the older. Artefacts of different areas and zones are also intensively compared to establish parallelism which would help in arriving at comparative dating. In this type of work, pots and potsherds were found to be immensely useful, because earthen pottery was universally used all over the world since the earliest of times (c.4000 B.C.). They are almost indestructible and, therefore, always available.

The main defect of the method of archaeological stratification is that it is qualitative, and, therefore, subjective. The second defect is that the remains are silent, this being the main weakness of the archaeological method as against the literary method. However, inscriptions or tablets, if any found, combine the strength of both the methods and, therefore, is the most sought-after clue, provided that the writing can be deciphered. The Harappan script, for instance, has remained elusive, and, therefore, in spite of the extensive ruins and vast amount of material collected, the Harappan civilization looks strangely 'incomplete' as against contemporary Mesopotamian cultures. So much, yet so little !

The superiority of the archaeological method over the literary method lies in the fact that the material remains are visible to naked eye, and, therefore, afford incontrovertible evidence of antiquity. In spite of the subjective element always involved in its interpretation, it should be appreciated that the archaeological method is based on visible and tangible—though silent—evidence. The old testament of the Bible is coming to life only through the spade of the archaeologist.

**3. Radiocarbon Technique :** The great merit of the method is that it is both quantitative as well as objective—as in the case of all other sciences. However, when closely

analysed, it also shows some defects, revealing that in spite of the initial enthusiasm, it is neither a chronometer nor a *panacea* for the chronologist The defects are

1 The method is only statistical and, therefore, the result is only an estimate It is *not* a chronometer reading

2 *It gives a false and exaggerated sense of certainty and accuracy, which arises from the format in which the results are announced,* e g

"5 UCLA—66 2263±82 B C
6 A—334 2262±52 B C."

The above two results from the same Egyptian sample of the middle kingdom would suggest that the date is about 2262 B C and that the margin of error is no more than 82 years at most However, *the confidence is entirely misplaced* This is beautifully shown by the data collected by D P Agarwal, one of the leading workers in the field of this technique, in the material placed by him in the *Puratattva*, Vol 7 p 70 He has given *nine cases of the same material* being examined *in different* laboratories which show the wide differences in the results One illustrative case will suffice, the material being from the middle kingdom of Egypt and belonging (on other historical evidence) to 2450±125 B C Different samples of the same material were sent to three different laboratories and NINE different readings were made with the following results

| Laboratory | Sample | Spread B C | Mean B C | Margin ± |
|---|---|---|---|---|
| 1 BM | 139 | 2737—2427 | 2577 | 150 |
| 2 UCLA | 218 | 2684—2520 | 2602 | 82 |
| 3 A | 333 | 2427—2303 | 2365 | 62 |
| 4 A | 521 | 2383—2178 | 2280 | 102 |
| 5 UCLA | 66 | 2345—2181 | 2263 | 82 |
| 6 A | 334 | 2314—2210 | 2262 | 52 |
| 7 A | 519 | 2252—2190 | 2221 | 62 |
| 8 UCLA | 665 | 2242—2078 | 2160 | 82 |
| 9 UCLA | 667 | 2222—2058 | 2140 | 82 |

Thus, while the individual results give a confidence range of ±52 years to ±150 years, highest possible date is actually 2737 B.C. while the lowest date is 2052 B C. and it should be very carefully noted that the total range is (2737-2058) B.C. i.e. 679 years. Hence, the true indication of the margin of error is shown by a more straightforward statement viz. 2398±340 B C.—this being a truer indication of the margin of confidence.

In other words, when the same remnant *is examined by three different laboratories*, a wide range of 2737-2058 is obtained while the true or the historical date is 2450 B.C. This analysis would perhaps give to the lay reader a better idea of the margin of error actually involved in this technique—the wide margin arising because the underlying basic theory is statistical viz. the probability of the decay of a nucleus. In fact, theoretically, the problem is similar to the problem of the dynastic method (where the probability of the age at which the first male child is born is involved) : The radio-carbon method is more reliable only because a larger number is involved.

It should be particularly noticed that the single result such as 6.A=2262±52 B.C. gives a false idea of confidence viz. ±52 years only. Even two results fortuitously tallying e.g.

| | | |
|---|---|---|
| UCLA | 66........ | 2263±82 B.C. |
| A... | 334 | 2262±52 B.C. |

is misleading, because the wide margin is revealed *only when the object is repeatedly examined in different laboratories.*

Archaeologists not knowing the theory of measurements, or about the theories of experimental errors—as distinct from the theoretical margin of error in individual experiments—will be taken in by the format of the result. Thus, they would think that the margin of error is only ±52 years, while repeated measurements in different laboratories show that the margin of experimental error is actually ±340 years.

The solution is extremely simple. The same remnant *must* be divided in at least six samples and examined by at

least three different laboratories Only then, would the margin of experimental error be known with some confidence, because that is the only scientific way to examine an estimate

The second and more serious defect of the radio carbon dates which have been only recently confirmed by extensive dendrochronological (tree ring) analysis is that the dates are consistently too low The present author's examination of the available material in the light of astronomical chronology herein presented also shows that the RC dates are consistently too low He has proposed correction factor of x 1 1 (to the 5537 half dates), while the dendrochronologists have prepared an elaborate table of corrections which suggest an upward correction of about + (300—500) years at or beyond 2000 B C (vide Puratattva, Vol 7, pp 65 69)

The following notes from the well known archaeologists Sir Max Mallowan and Sir Mortimer Wheeler, show that the initial enthusiasm about the technique of radio carbon dating has considerably waned of late

Says Sir Mallowan "Nevertheless there is a good case for awarding a span of about a 100 years to Sin VII (temple—XCV, and using the same principle of calculation we may reckon that E D I (Sin VI, and Sin X XVII lasted for about 200 years, E D II (Sin VII and the earliest phase of Sin UX) about 100 years, E D III (most of Sin IX and Sin X) about 250 years—say 550 years in all To this we must add something for the lapse of time between the abandonment or destruction of one building and foundation of its successor—an unknown factor, for which a total of 50 years in all may not be exaggerated Since Sin X probably ended shortly before Agad period, c 2300 B C, we thus arrive at a date of c 3000 B C for the beginning of E D I A case could be made for the higher, or for a lower chronology, as Delougas has demonstrated but this one seems to be the solution which at present accords best with the historical probabilities, and it has a strong recommendation in that archaeologically E D I seems likely to follow directly after the predynastic period in Egypt, perhaps a little later than Menes, for whom a mean

date of c.3100 B.C. may be assigned on the basis of Egyptian chronology."

"Unfortunately this apparently satisfactory estimate for the length of E.D. period does not agree with the recent carbon-14 findings, particularly for material from Nippur lately tested, which may require a reduction of third millennium dates *by as much as six or seven centuries.* We have to face the possibility that if the newly *emerging carbon-14 pattern for third* millennium is the right one, we must jettison the whole of the previously accepted Egyptian chronology upon which the Mesopotamian in large part depends. But we should be reluctant to do this without much stronger contrary evidence, for *Egyptian calculations based on written evidence can be checked on astronomical grounds with but a comparatively small margin of error and,* if we accept a low carbon-14 chronology[1] for the E.D. period, we are faced with a big and unexplained hiatus between this and the Neolithic, for which the same method has given unexpectedly high dates. Some authorities are therefore inclined to believe that at this end of the third millennium there was some physical disturbance in the solar magnetic field, which may have affected the level of the carbon-14 activity in the carbon exchange reservoir. This level may well have been higher than normal during the third millennium B.C. and this would make all the dates appear later than in fact they were. But the problem is unreal, for very recent study has made it clear that carbon-14 determination in the third millennium B.C. in the Near East and elsewhere are erroneous, and that published dates *are more than five hundred years too low.*"[2]

Sir Mortimer Wheeler is more emphatic :

1. Camb. Anc. Hist. Vol. I. pt. 1. chap. VI Sec. I, p. 242 'Chronology and *Ibid.* pt. II. Chap. XI. Sect. I. "Recent determinations for samples from Isanna temple at Nippur average 2253+23 for E.D.I. 2184+41 for E.D.II; 2124+64 for the transition from E.D.II to E.D. III. Other examples of unexpectedly late carbon-14 dates, together with reference are quoted in (P.R.S. Moorey). "A Reconsideration of the Excavations at Tell Ingharra (East Kish), 1922-33 and in *Iraq*, Vol. 28, 1966, pp. 18 ff. C-14 dates for Saqqara in Egypt are too low by much as 100 years. See also H E. Suess, *Jour of Geophysical Res.* Vol. 70, 1965, no. 23 and Minz Stuiver and Suess, *Radio-carbon*, Vol. VIII, 1966, pp. 534-39.
2. Sir Max Mallowan, Camb. Anc. Hist. Vol. I. pt. 2, pp. 242-43.

"Forty years ago, before the revision of the Mesopotamian dating and, of course, long before the advent of the scientific tests which have come to our aid since 1950, Sir John Marshall as Director General of the Archaeological Survey of India hazarded an estimate of 3250 2750 B C as the central epoch of the Indus Civilization using such comparative evidence as was then available Travelling down the years to more recent esti mates, in 1968 Dr F R Allchin, armed with the radiocarbon tests with which the Tata Institute at Bombay and other labo ratories (notably that of the University of Pennsylvania) so generously equip us is inclined to accept a bracket of four centuries 2150 1750 B C Between or beyond the Marshall Allchin extremes, in 1946, I invented the bracket 2500 1500 B C using the up to-date (and still valid) Mesopotamian dating for my analogies, but with the reservation that Harappan mate-rial for comparative dating in the post Akkadian period (i e roughly after 2300 B C ) is at present very slight" Be it noted that in 1946 radiocarbon had not yet arrived to compli-cate the issue

"Now those who concern themselves, not merely with the bland end product of the radiocarbon *method*, but also with its moods and modes, have become aware during the past ten years that it is by no means a mechanical end to all our trou bles The difference between radiocarbon 'dates" and those produced by astronomy or dendrochronology or reliable history can on occasion almost pass belief Recently scientists and archaeologists—particularly those archaeologists who in Egypt and Iraq can deal with the third and second millennia B C in tolerably historical terms—have approached agreement as to the magnitude of the disparities involved And the cross-checking has been aided by the use of the long lived bristlecone pine which has enabled science to compare radiocarbon dating with a seemingly precise tree ring dating back to something like 1700 B C In one way and another the disparities become serious in the earlier part of the second *millennium* B C and increase steadily, or unsteadily, backwards at least to the 4th millennium During this period the radiocarbon method is liable, unless carefully corrected, *to give a* date from 150 to 800 years too late Nor is a correction easily obtained by the app-

lication of a simple corrective graph to 'ordinary' radio-carbon dates. The Stuiver-Suess correction is a complicated and not yet fully adequate method, struggling with a number of "wriggles" or deviations not yet comfortably explained by science. I will not carry this catalogue of tribulation further now, except to re-emphasise the certain conclusion that all the "Indus" radiocarbon dates hitherto published are too late, sometimes seriously too late. *The often-repeated assertion about the Indus Civilization dating from say, 2100 to 1700 B.C. must be forgotten.* As Sri Rao more than once implies, comparison where possible with established Mesopotamian historical dates is still the surer method. The beginning of Harappa may well be found to go back to or beyond 2500 B C. And here is a further suggestive but little-known scrap of evidence :—

In 1967 experienced Dutch consultants drilled for UNESCO a series of twentyfour widely-distributed "observation wells" at charted spots on the map of Mohenjo-daro. These wells revealed in a necessarily restricted compass the nature of the sub-soil below the approximate present flood-plain of the site; and the astonishing fact is that they show human occupation-debris at depths down to more than 60 feet (18 metres) below that plain—three times as deep as any archaeological digging is known to have penetrated. Whether the deepest debris is in any precise sense Harappan cannot be said, from the nature of the operation; and the material descriptions of certain of the overlying-layers-"sand", "hard clay", "clay and bricks", etc.—are far too vague to reveal the processes of deposition. But the bulk result is to suggest that the lowest evidence previously excavated (Sargonid or a little earlier) was recovered from levels markedly higher (later) than the earliest occupations of the site. And this conclusion is reinforced by the two well-known drillings carried out by Dr. G.F. Dales in 1964-65, when occupation was found 39 feet (nearly 12 metres) below the same flood-plain. All these and similar drillings need much further diagnosis, but once more they open the possibility of a beginning occupation at this—key-site before the middle of the 3rd millennium."[1]

1. Sir Mortimer Wheeler, Introduction to Lothal and Indus Civilization by Shri S.R. Rao.

**4. Astronomical Method** There are several astronomical methods but of them, three have been actually used in historical chronology (a) Total eclipse method (b) Phases of Venus method and finally (c) the precession of the seasons method

1 The total solar eclipse can be accurately computed, both for the past as well as for the future, and, thus, where available, it offers the most accurate method for timing, being correct to a second Unfortunately, only few *total* solar eclipses have been recorded In the Vedic period, only one such eclipse has been located satisfactorily by us and its precise date is under a computer analysis, with the kind courtesy of New Castle University

2 The phases of the Venus method is available in Babylon, where detailed records of the heliacal and acronycal rising and setting of the planet Venus was regularly recorded It has been successfully used to determine the date of the successors of Hamurabi (1700—1600) B C

3 The precession method has been most frequently resorted to, because abundant material is available It is quantitative, reasonably accurate (correct about $\pm 200$ years) and simple It is a quite useful tool for *elementary first order chronological analysis*

In fact, its deceptive simplicity is its drawback The method requires a fairly detailed understanding of lunar astronomy because most of the ancient calendars were lunar where intercaltion was imperative Further, ancient texts are not easy to decipher The symbolism, significance and the astronomical meaning of the ancient texts have to be carefully worked out and, for this purpose, philology alone is *not* sufficient A knowledge of the language and the script is surely needed but, in addition, a deep knowledge of mathematics of observational astronomy and, above all, of ancient calendars is a *sine qua non* The Indological research has been choked because the philologists (ignorant of Vedic astronomy) have summarily rejected the suggestions of the astronomers

A full refutation of the criticisms of the philologists (in particular, of Whitney and his followers) will be given elsewhere.

If the inherent difficulties, can be solved then it is not difficult to reach an accuracy of three degrees or three days or three *tithis* in locating the equinox, which gives an accuracy of about $\pm 200$ years, which is not unreasonable for the period 3000—1000 B.C.—expecially when no date is otherwise known—even remotely.

In the present monograph, the astronomical determination has always been confirmed by the dynastic dates of the observers and their isochronous kings as obtained independently from the dynastic lists.

**5. Cross Contacts :** This method requires the identification and establishment of a contact with a known dated king. Illustrations are available in the 13th edict of Ashoka which mentions five kings across the border.[1] A similar cross contact was established between the XVIIIth dynasty of Egypt and the kings of West Asia. Many other cross contacts have been established from the cuniform tablets.

This method is of course an ideal method—provided the identification is certain. However, identification is not always easy.

It is humbly yet very firmly suggested, therefore, that unless a cross-contact, howsoever tenuous, is established, one should not be dogmatic about a date. No date proposed on the basis of some tangible material should be rejected merely on the opinion of some one, or simply because the (astronomical) argument is beyond him. On the other hand, no date should be accepted as final on the mere *ipse dixit* of some authority however great, unless a cross contact is established; for, that would be the surest way of raising ghost chronologies.

**Chronological Ankylosis :**

Before proceeding further, a note of caution in regard to

1. If Ashoka's edicts are to be believed, then the date of the Bharata battle cannot go backwards beyond 1500 B C.

## II

# Chronology of Western Indology : *a critique*

India owes a deep debt of gratitude to Sir William Jones, Wilkins and Colebrooke—for, it was their pioneering work which initiated the scientific Indology. They were followed by a host of others—Germans, French, Americans and, of course, Indians—who pursued and followed up their work. Thus was the school of Western Indology born. The picture which has emerged as a result of their work may be fairly summed up by the compendious name of "Western Indology" and this is what is adopted and taught now in the Indian universities and is also followed by the Archaeological Survey of India.

One serious weakness in the otherwise wonderful structure is its absolute chronology—or absolute dates. While the analysis of relative chronology is fairly comprehensive and well documented, complete chaos—if one may use that strong word—reigns on the subject of absolute dates.

The trouble is due to Indians themselves because they give widely differing dates for the most crucial event in Indian protohistory viz the Bharata battle. 3100 B C, 2400 B C and 1400 B C has been suggested with equal emphasis, and each school has demolished the others with zest and fire. The inevitable result was that when Pargiter estimated the date of 950 B C for the Bharata battle—it was eagerly adopted in Western Indology without any discussion—so much so, that it has now become the keystone of their chronological system.

The chronology of Western Indology is the work mainly of Max Mueller, Pargiter and Roychowdhury. It is essential to know their true nature—and weaknesses—before any scientific discussion is possible. Hence, each one of them is taken up in turn and critically discussed.

The archaeological department has merely followed them, and, hence, a brief note is appended on their work also—particularly in regard to the date of the Bharata battle.

*The following criticism of individual workers should be read in the background of the 'critique' which has been already given in the first chapter.*

**Max Mueller—a critical analysis**

Max Mueller laid down the chronology of the Vedic culture as follows:—

| | B.C. |
|---|---|
| 1) Sutra period | 200—600 |
| 2) Brahmana period | 600—800 |
| 3) Mantra period | 800—1,000 |
| 4) Chandas period | 1,000—1,200 |

and, finally, all work, in shloka (e.g. Mahabharata, Ramayana) *after* 200 B.C.[1]

This specification has been severely criticised as arbitrary, among others, by Goldstucker (Panini, p. 91) Winternitz (HIL, p. 292-4) and Haug (Introd. to Ait Brah.)

The initial period, the *terminus quem* proposed by Max Mueller was fixed with reference to Katyayana. Max Mueller asserted that Katyayana was Vararuci Katyayana—a minister of king Nanda who lived in 350 B.C. Max Mueller further identified this Katyayana as the Vedic authority (author of Vedic sutras—Anukramanis, Pratishakhya, etc.), and thus built up the chronology shown above.

1. Max Mueller, HASL, pp. 302, 235, 128 etc. and 35-6.

Max Mueller cited two pieces of evidence for his identifications and synchronisms—

a) Kathasaritsagara by Somadeva

b) A commentary of Katyayana's Sarvanukrama by Shadguru shishya

a) **Kathasaritasagara**

Somadevabhatta of Kashmir collected the popular stories current in his time and published them towards the beginning of the twelfth century It contains a ghost story (the story of the one-eyed ghost or *Kanabhuti*) which mentions the names *inter alia*, of Katyayana, Varsha, Panini, Nanda and a host of others On this basis, Max Mueller identified Katyayana with Vararuci and concluded —

"Suffice it for the present that if Chandragupta was the king in 315, Katyayana must be placed, according to our interpretation of Somadeva's story, in the second half of the fourth century B C "

It is humbly, yet very firmly, submitted that a ghost story appearing in a collection of popular fanciful tales current in 1,200 A D is *wholly* inadequate for dating of events, occurring 2,500 years earlier, and a *fortiori*, totally insufficient for basing the chronological foundation of a great civilization thereon We shall call it the "ghost" chronology of Mueller because it is based on a ghost story

Max Mueller himself comments —

"It would be wrong to accept in a work like that of Somadeva, historical and chronological facts in the strict sense of the word, . '[1A] and, again,

'We may disregard the story of Somadeva which actually makes Katyayana himself minister of Nanda This according to its own showing, a mere episode in a ghost story, and had to be inserted in order to connect Katyayana's story with other fables of the Katha sarit Sagara "[1B]

1 HALS (a) p 176 (b) p 128 For a full discussion on the date of Panini please see JAHRS Vol XXXIV, *in press*

Mueller further notes, "According to the Southern Buddhists, it was Chandragupta, and not Nanda, whose corps was reanimated."

Goldstucker, the eminent authority on Panini, comments:—

"Thus, the whole foundation of Mueller's date rests on the authority of Somadeva, the author of the Ocean of Stories, who narrated his tales in the twelfth century after Christ. *Somadeva, I am satisfied, would, not be a little surprized to learn that "a European Point of view" raises a 'ghost story' of his to the dignity of an historical document.*" and, again,

"..............; in short, he pulls down every stone of his historical fabric; and yet, because Nanda is mentioned in this amusing tale, he *must* place Katyayana's life about 350 B.C."[1]

In fact, the story is absurd. If it is to be believed then Panini would be the greatest blockhead that ever lived.

b) **Shadgurusishya**

The next witness cited by Mueller is Shadguru-Sishya. Unfortunately, he also cites only a fairy tale when he comes to the witness box: Mueller himself says:—[2]

"It need hardly be pointed out that the passage contains a strange and startling mixture of legendary and historical matter, and that it is only the last portion which can be of interest to us".[3]

In fact, it is also a ghost story, because it begins with the assertion that Shaunaka was a re-incarnation of Gritsmada—an early Vedic rishi.

Why then pick up a bit from 'a strange and startling mixture of legendary and historical matter'? Only because it suits you?

1. Goldstucker's 'Panini'—pp. 87-93.
2. History of Sanskrit Literature, pp. 120.
3. Max Mueller, HASL, p. 120.

Perhaps I am too severe on Mueller I think and (Goldstucker is on my side) it is a matter of comedy and farce that India's chronology is based on a ghost story supported by startling legends Unfortunately, the Indologists are not prepared to see the comic side of it, but swear that "Max Mueller has *proved* that the earliest portion of the Veda was composed in 1200 B C" Perhaps they think that Mueller was present in an earlier life (for, all the stories relied upon by Mueller are stories based on the reanimation of past lives) when the first Vedic *rk* was composed

To be more serious, it is time to lay down Max Mueller's ghost (lest I be mistaken, I hasten to add that I mean Katyayana's ghost raised first by Somadeva and then reanimated by Mueller), from the shoulders of Indian history

And, therefore, I request the readers, to reconsider this vital matter

Now, about the date of the witness Shadguru-sishya — He himself says in a Colophon of one of his books Vedarthadipika that he worked in 1187 A D Why should a fairy tale penned in 1187 A D be taken as *conclusive* evidence of things happening 2,500 years earlier ? Have they *any* value as a precise chronological determinant ? For, following this line of arguments, it can be shown that Max Mueller has *proved* that the Bharata battle was fought in 422 B C The proof is as follows

1 Max Mueller has *proved* that Katyayana lived in 350 B C

2 Pargiter has *proved* that (vide AIHT, Table p 330) that Shaunaka (D N 98) was a contemporary of King Shatanika

3 Mueller has *proved* that Katyayana was a pupil of Ashvalayana, and that Ashvalayana was himself a pupil of Shaunaka This in fact, is the keystone of Mueller's Vedic chronology (as shown above)

Thus, Katyayana is four generations away from Parikshit, the grandfather of Shatanika

4. Pargiter has prescribed the age differential of 18 years per generation as the outside limit; four generations, therefore, mean 72 years.

5. Therefore, Parikshit was born 72 years before Katyayana i.e. in 422 B.C. (350+72).

And, finally, this is the lowest and the most conservative estimate of the Bharata battle ever computed AND, THEREFORE, ACCORDING TO THE PRESENT NORMS PREVALENT IN INDIAN PROTO-HISTORIC CHRONOLOGY, IT IS THE MOST CORRECT

Q.E.D.

However, if you still want to follow Mueller's chronology, then, by all means, follow the ghost. I have done my best.

**Principles of evidence in chronology**

It is time that a scientific study is made of the value and weight of evidence in chronological analysis :

Shadguru-sishya wrote in 1187 A.D. Somadeva Bhatta collected his stories in 1,200 A.D. Yet, according to Max Mueller, they have good evidentiary value.

On the other hand, Puranas were written (according to some) in the Gupta period say 400 A.D.; and Mahabharata was finally written (according to some) in say 400 A.D. Yet, we are told that we must reject the Puranas wholesale and every line of the Mahabharata, because they were not contemporaneous but were written very much later !

Why should we reject Puranas and Mahabharata composed latest by 500 A.D. though they are *itihasa,* and yet accept the ghost stories and legends of Somadeva and Shadgurushishya written in 1,200 A.D. even though they are fictions, and *ex facie* absurd ?

Or, take the name 'Katyayana' itself. If we timidly suggest that Vartika-kara Katyayana was the Kabandhi Katyayana who appeared in the Prashna upanishad and who composed the Vedic Pratishakhya, we are haughtily told that Katyayana is a

gotra name and, therefore, it is not permissible However, when Mueller identifies Vartikara with Nanda's minister, because they both bear the name Katyayana, this objection is *not raised* Why ?

We think that it is time that we evolve some norms to be applied *uniformly* viz the rules of evidence in chronology We shall make a detailed analysis of the subject later, but can suggest some criteria as an introduction to the subject

**(A) Tradition**

(1) *A tradition should be accepted except where it is not inherently improbable.*

(If the tradition says that Rama was the son of Dasaratha we should accept it But if the tradition says that Rama lived for 10 000 years, we need not take that statement seriously for chronology)

(2) *Natural course of events should ordinarily prevail as in jurisprudence*

(3) If there is one tradition (and one only) which is not inherently improbable, and one wishes to challenge it, then the onus is on the challenger to throw out the tradition

(4) If two traditions are inconsistent, then the value of *both* are reduced which is to be accepted, if at all, is a matter of further evidence

**(B) Iso-nomers**

(1) When two Iso-nomers (i e persons bearing the same name) are sought to be identified—the first thing to be ascertained is their dynastic numbers (vide A I, pp 1 and 105 126) This is to be done by ascertaining the name of their respective contemporaries whose dynastic numbers are already known

(2) If two persons bearing the same name have the same dynastic numbers, then they can be presumed to be

identical. The onus is on the disputant to show that they are not the same person.

(3) If the two persons have different dynastic numbers (e.g. Vararuci Katyayana D.N. 141=350 B.C. and Kabandhi Katyayana D.N. 99=1,370 B.C.), then they will be presumed to be different persons even though their names are identical.

Thus Kabandhi Katyayana, the disciple of Shaunaka (D.N. 99), is altogether different from Vararuci Katyayana (D.N. 141), the minister of Nanda because the latter came after 42 generations. In plain English, this is called *anachronism*—confusing between two events distant in time.

**(C) Mode of Statement**

In any chronological analysis, where an important crucial date is given, *the margin of error should invariably be given together with the upper and the lower limits of tolerance.*

Thus, to say that Panini is Pre-Buddha, and, therefore, a conservative estimate of his date is 700 B.C., is meaningless. Pre-Buddha can be 2000 B C. or even 3000 B.C. And, therefore, the upper limit of an estimate *must*, of necessity, be clearly stated.

The correct expression is something like the following :—

Kabandhi Katyayana (D.N. 99) : Date of birth=[850, (1300, (1370), 1400,) 1,450] B.C. It means :

(1) Most probable date of birth=1370 B.C.
(2) Margin of error=(1300—1400) B.C.
(3) Lower limit of tolerance=850 B.C.
(4) Upper limit of tolerance—1,450 B.C.

*To go by the lowest limit, commits a statistical error as grave as taking the upper limit as the correct date.*

However, what is indeed sad is the fact that a chronological ankylosis has gripped Indian chronology around Katyayana= 350 B.C. The western scholars would be

suggested that Baudhayana's date needs re-examination, because Katyayana's date has been overthrown They assert that Baudhayana (the earliest *sutrakara*) *must* be dated to c 500 B C because Max Mueller said that the sutra literature belongs to 600—200 B C If you question it, you are damned to eternal perdition *That* is incurable ankylosis

**Pargiter s analysis a critical review**

Pargiter estimated the date of the Bharata battle at 950 B C and his method and material will be examined now Pargiter s date has somehow become sacrosanct even though it is only an estimate, and the Western Indologists feel aghast even if someone seeks to examine its reliability This is so perhaps because it tallies with the other basic dogma of the Western Indology viz, that the earliest hymns of the Rig-Veda were composed in 1200 B C It is a tragedy that one no longer even adds *circa* when stating these dates !

The review will be framed in three sections a) Form b) materials and c) statistical methodology

a) **Form** Pargiter has given the analysis at pp 179 83 and again at p 287 of his main book Ancient Indian Historical Tradition (=AIHT) *He has not given it in its appropriate place i.e. as an appendix to his other book, 'Dynasties of the Kali Age' (=DKA), to which it properly belongs* This criticism may look trivial but it lies at the heart of the whole problem

Pargiter is clearly aware of the vital differences between the two sections of the Puranas, the ancient pre Vyasian section and the later post Vyasian Bhavisyat section (see also chapter III *infra*) That Pargiter knows of the substantial difference is apparent, because he composed his AIHT around the ancient Vyasian section, while his DKA around the Bhavisyat section It is also clear that Pargiter is keenly aware of the total *qualitative* difference between the two sections The ancient section was a co-operative effort of no less than NINE independent minds and was ready only after a continuous labour of a hundred years of two generations At least four drafts were prepared before the final version

emerged. In short, it is so complete and accurate that Pargiter was able to condense the entire literature in two neat tables : first of the kings, at pp.144-9; and second of the rishis at pp. 192-3. Even so, Pargiter was careful not to convert it into a table of absolute dates by taking some appropriate age differential.

On the other hand, Pargiter knows that the king lists of the DKA are hopelessly incomplete. That they are scattered. That no synchronism *inter se* is possible. That different areas give widely divergent numbers of kings for the same period.

Thus, the figures on which Pargiter commences his manipulations (Pargiter's estimate is hardly more than a manipulation, or a series of manipulations, of figures, as will be presently shown) is contained in the following statement :

'Mahapadma exterminated all ksatriyas, and that until then there reigned contemporaneously for the same length of time 24 Aiksvakus, 27 Pancalas, 24 Kasis, 28 Haihayas, 32 Kalingas, 25 Asmakas, 36 Kurus, 28 Maithilas, 23 Surasenas, and 20 Vitihotras'.

One must note that here Pargiter avoids saying that there were, *by actual count*, 37 kings of Magadha viz., at the very place where these Puranas were being compiled and that only the Magadha list gives the reigns of each king separately.

At this point, Pargiter, the great Pargiter of the AIHT whom I have elsewhere have given the honorific epithet of the modern Vyasa, behaved in a most un-Pargiter like fashion. Suddenly he gave up all the principles on which he worked out the great synthesis of the ancient Vyasian Purana, and then, abruptly and without any provocation, proceeded to declare the date of the Bharata battle. He took up all the incomplete lists but excluded the list of the Magadha dynasties which he himself declared to be the most complete and the most authentic (because the Purana was kept and completed by the Magadha bards, the political centre having shifted to Magadha) : he then hastily worked out the averages and proceeded to find the lowest possible date : and, having

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computed 950 B C, as the lowest possible date, firmly declared it to be the date of the Bharata battle Later, when discussing the Magadha list, he gave a most unconvincing (in fact statistically incorrect) explanation

Why do we say that Pargiter had given up his own method of AIHT ? In AIHT, Pargiter took up the longest list—which happened to the Ikshwaku list, and compared all other incomplete dynasties with reference thereto Then, he meticulously built up synchronisms with the known Ikshwaku kings When such a cross-contact was established he, with extreme caution, built up further synchronisms with those who have already been thus located In short, *he rightly chose the longest list as the frame of reference This is the 'critical path' of the modern* CPM *system of time valuation* used in modern time analysis

Thus, slowly, with infinite pains, using utmost caution and circumspection at every step, he built up his grand tables which were given in pp 144 9

The statistically sound basic principle behind this scheme is that *when all the lists are known to be incomplete, the longest and the most complete list should form the basis or the standard frame of reference* Yet the first thing he discarded in computing the date of the battle was the admittedly most complete list of Magadha ! Not only so, when he later took up the Magadha list he gave a most unconvincing explanation, and, in order to square up the figures, he reduced without any rhyme or reason the basic average from 18 years per king to 13½ years per king Pargiter's synchronisms of the AIHT are as good as his application of statistics bad Perhaps, he may be pardoned because in dynastic chronology one is dealing with two unknown variables—(a) the number of kings which is unknown and (b) the average age differential which is also unknown which require the Theory of Compound Probability and this was evidently beyond him Secondly, there is a subtle difference between a dynastic list and a regnal list In a dynastic list where the law of primogeniture prevails, the age differential is on the average, *the age at which the first male child*

*is born.* In the regnal list, on the other hand, the age differential is uncertain. In India, it is a dynastic list, and therefore, an age differential of less than 18 years is obviously a biological impossibility, particularly when long dynasties are concerned—as in India.

Pargiter did not build up a table of synchronisms of the DKA, perhaps because the data was so meagre. He should have admitted this defect and left it at that. The serious drawback is that *an unsuspecting reader would think that Pargiter's computations are based on as scientific a system as he has built up in his masterly table of the AIHT, (p. 144) whereas, in reality, there is no material at all for his computation of the date of the Bharata battle.*

It may be mentioned here that the minimum date (the absolute lower bound), as will be presently shown[1], is 1088 B.C., and Pargiter's proposed date of 950 B.C., is below even this lower bound.

**(b) Material :**

Pargiter has completely ignored the following clear statements mentioned in the Puranas themselves :

1. That there was a difference of 1015 (or 1050) years between the birth of Parikshit and the coronation of Nanda.

2. That there was a lapse of TEN nakshatras which means a lapse of 1000 years (at the rate of 100 years per nakshatra) between the reign of Parikshit and the reign of Nanda.

Accepting them, Cunningham computed the date of 1424 B.C., for the Bharata battle. (A.R., Vol I, p. 135).

Not only are they specific bits of definite information, but they give a date of 409 B.C. for the coronation of Nanda and 224 A.D. for the end of the Andhra dynasty and both these derived dates are very plausible. Pargiter has given no reason whatever for ignoring them, and *it need not be pointed out that the onus on Pargiter is particularly heavy because he swears by the Puranas.*

1. Briefly, Nanda *plus* 37 kings i.e. 422+37×18=1,088 B.C.

3 In the Magadha dynasties, the Purana gives not only the names of the kings but also their periods of reign The Maximum interval between Parikshit and Nanda according to Pargiter himself, is 1493 years and minimum interval is 938 years Taking the minimum, (which incidentally is very near to 1015 years,) the date of the battle comes to 1360 B C which is not far from 1424 B C proposed by Cunningham

4 Before making any estimate, one should, if possible, effect synchronisms between different kings of different dynasties Pargiter did not do so There being no synchronisms at all, Pargiter's computations are mere shadows. In particular, *he ought not to have declared the lowest possible date as the firm date*

**(c) Statistical methodology Theory of dynastic chronology**

The theory of dynastic chronology is based upon the theory of compound probability which has been discussed by Roy The detailed principles are laid down in the Chronological Infrastructure of Indian Protohistory[1] and the results in brief are —

In the present case, the following data are available

| | | | |
|---|---|---|---|
| Minimum number of kings | | = | 37 |
| Maximum „ „ „ | | = | 47 |
| Minimum age differential | | = | 18 |
| Maximum age differential | | = | 28 |
| Hence Minimum period | $= 37 \times 18$ | = | 666 (A) |
| Maximum period | $= 47 \times 28$ | = | 1316 (B) |

The correct average in compound probability where products (and not sums) are involved is the geometric mean and not the arithmetic mean Hence, the best estimate of the interval

$$= \sqrt{666 \times 1316}$$
$$= 936 \text{ years}$$

1 S B Roy, Chronological Infrastructure of Indian Protohistory, JBRS, Vol. LVIII pp 44-56.

Nanda's date of birth =434(409+25 say) B.C.
Hence, birth of Parikshit =936+434 B.C.
≐1,370 B.C.

This is the most probable date satistically.

The minimum date is computed as follows :

| | | |
|---|---|---|
| Birth of Nanda | = | 434 B.C. |
| Minimum time lapse(A) | = | 666 Years |
| Birth of Parikshit | = | 1100 B C. |

Maximum date is computed as follows :—

| | | |
|---|---|---|
| Birth of Nanda | = | 434 B.C. |
| Miximum time lapse(B) | = | 1316 Years |
| | | 1750 B.C. |

**To sum up** : According to the incomplete dynastic lists of Kali age :

| | |
|---|---|
| The lower bound | =c.1,100 B C. |
| The most probable date | =c.1,370 B.C. |
| The upper bound | =c.1,750 B.C. |

b) According to definite Puranic statements the date =(1424—1414) B.C.

c) Pargiter went wrong in declaring the Minimum date as the firm date—committing the error of double minimum in a compound estimate.

**Roychowdhury's analysis**

Roychowdhury proposes the date of ninth century before Christ for the Bharata battle. Evidently, he has followed the chronology of the Western Indology whose base was laid down by Max Mueller—Pargiter as follows :

a) **Max Mueller-Pargiter**

| | |
|---|---|
| Rigveda | 1200—800 B.C. |
| Brahmanas | 800—600 B.C. |
| Sutras | 600—200 B.C. |
| Epics | after 200 B.C. |
| Bharat battle | 950 B.C |

Roychowdhury has made an attempt to squeeze in all the facts found in the Buddhist literature, Brahmanas and the Sutra literature (and, even the Rigveda) in this frame He has stated that the Puranas are unreliable and have quoted them only where they support his findings

The main pillars of his chronology are as follows

1 That Siradhwaja Janaka, whose daughter Sita was married to Rama Dasarathi, was identical with the Janaka of the Upanishads

2 That Janamejaya who performed a horse sacrifice with Indrota Devapi Shaunaka as the chief priest, was none other than the grandson of Abhimanyu

3 That the famous Brahmanas mentioned in the Buddhist literature, like Assalayana of Savatthi and Pakuda Kaccayana (who were contemporaries of Buddha according to the Digha Nikaya) were the sutrakaras who composed the Vedangas

These contentions will be discussed serially below —

If one identifies Siradhwaja with the Janaka of the Upanishads, then some curious results follow According to Roychowdhury, Janaka of the Upanishads lived 5 generations *after* the Bharata battle which took place (according to Roychowdhury) in the 9th century say in 900 B C It means Rama Dasarathi lived say 700 B C Now *the Dasarajana battle took place after Dasaratha because Rama the son of Dasaratha has a dynastic number of 65 while Sudasa the victor of the battle of the ten kings had a dynastic number of 68* Hence, to logically follow *Roychowdhury the Dasarajana battle would be around* 625 B C and the whole of the 6th and 7th Mandalas of the Rigveda would be dated to c 600 B C Even the most fanatic followers of the LOW chronology of the Westren school would not subscribe to this view—the inevitable logical end of Roychowdhury's ' facts"

The trouble arose because Roychowdhury did not ascribe dynastic numbers to the personalities, and, thus, 35 genera-

tions were wiped out of the Vedic history (Siradhwaja Janaka's dynastic number was 64, which, according to Roychowdhury, would be only 100.)

However, Roychowdhury made a discovery of great significance about Dasaratha, whose importance he himself did not realise, because he was obsessed by the European dates. At p. 65 of PHAI, he pointed out that Dasaratha is mentioned in the Rigvedic hymn R V. 1.126. 4. No one agreed with him because etymologically 'Dasaratha' means ten chariots. However, a proper name may (or may not) have a meaning, but that does not make it the less a proper name. In fact, Roychowdhury's identification was correct as is shown below.

The hymn is by Kakshivan Ausija, and Pargiter after a detailed analysis has shown that this Kakshivan was a junior contemporary of 63. Divodasa, and Pargiter gave Kakshivan the dynastic number of 65. What is of crucial importance is the fact that Dasaratha has a dynastic number of 64 while Kakshivan has a dynastic number of 65. It follows that Kakshivan was a junior contemporary of Dasaratha and further that the hymn R.V. 1.126 was a contemporary eyewitness report of an event. This is confirmed by the Ramayana description that Dasaratha fought on the side of Divodasa (Pargiter has shown that Kakshivan had sung a number of panegyrics in the victories of Divodasa in other *danastuti* hymns) against the Danava king Shambara, the son of Kulitara. Further, both Pargiter and Pradhan have noticed that Sharadvanta Gautama, a priest of Siradhwaja Janaka, now under discussion, married Ahalya the sister of Divodasa. All these facts taken singly (and *a fortiori* cumulatively) demolish Roychowdhury's identification of Siradhwaja Janaka with the Janaka of the Upanishads. As the gap is of 35 generations, this analysis, shakes one's faith in Roychowdhury's chronological calculations.

*Apropos*, one may refer to the recent pronouncements of B.B. Lal, the eminent archaeologist. Lal has implicitly followed Roychowdhury's chronology and he has recently asserted in

public lectures and press interviews that

1 The Bharata battle took place in 836 B C

2 Ramayana incidents followed the Mahabharata incidents—on the basis of his archaeological excavations at the Ramayana sites and the Mahabharata sites

If these findings are to be accepted, then all the above criticisms will apply *a fortiori* to Lal's findings One cannot simply ignore the Puranas and the Rigveda and wipe off 35 generations *The real significance of Lal s excavations is, however immense and will be discussed in an appropriate place*

**2 Janamejaya, Parikshit and Indrota Devapi Shaunaka**

There are two Parikshits known to the ancient Indian literature and both had sons named Janamejaya They have given rise to endless controversies in Indian chronology A brief *resume* of the controversy is given in the separate note 'A note on Janamejaya, p 35 *infra*' In that note it has been shown from the Vidyavamsa of the Samaveda that both Janamejaya and his priest Indrota Devapi Shaunaka had dynastic number of 73 74 A perusal of the note will show beyond doubt that the famous horse sacrifice of Indrota Devapi Shaunaka refers to the earlier Janamejaya viz Janamejaya with dynastic number of 73 and not to the second Janamejaya (grandson of Abhimanyu) whose dynastic number was 97

Here again, Roychowdhury s identification wipes off 24 generations (97 *minus* 73) from the Vedic period

Roychowdhury refers to Bhujyu Lahyayani s question 'Where have the progeny of Parikshit gone? And says that this question refers to the second Parikshit who was Abhimanyu's son The first objection is that such questions are not asked about the contemporary or recent kings The second and the more potent objection is that this question was asked in the Janaka conference which took place in c 1400 B C when

Janamejaya was an infant (if at all born) and Parikshit was perhaps not yet the ruling king. It must therefore necessarily relate to the earlier Parikshit who ruled some 25 generations earlier. It would be indeed a witty question in second Parikshit's reign, only if it is asked about the first Parikshit.

Finally, an amusing sidelight. The Bhujyu incident is a kind of ghost story because it was answered by a girl who was under the spell of a *gandharva*. Why are the followers of Westren Indology so fond of ghost stories in fixing India's chronology ? Is it because Max Mueller, their pioneer, based the Vedic chronology on the evidence of a one-eyed ghost ?

Finally, Roychowdhury refers to a Kuntapa sukta of the Atharva Veda (A.V. XX-127- ) where Parikshit is mentioned as a king in whose reign people prosper.

Firstly, the Kuntapa sukta is admittedly a '*khila*' and added later, thus reducing its evidentiary value. Secondly, it may have been a panegyric from a priest of the second Parikshit.

It is not clear however as to how the hymn shows that the horse sacrifice of Indrota took place in the reign of *this* Parikshit because Indrota is never mentioned. It only shows *at best* that this *khila* sukta was sung by a priest in the reign of the second Parikshit i.e. in c.1400 B.C.

Here again, one cannot fail to notice that Roychowdhury's identification of the second Parikshit with the first Parikshit has wiped out 25 generations of kings from the Vedic chronology—thus wiping out about 500 years from the Indian history.

We, therefore, humbly yet firmly repeat that a chronological discussion must, of necessity, give the dynastic numbers—however tentative that number might be.

(See also Ashim Kumar Chatterji : "A note on Parikshit and Janamejaya," Journal of the Oriental Institute, Baroda, XXI, p. 66.)

**Sutrakaras of the Vedanga period**

Roychowdhury held that the *sutrakaras* of the Vedangas were contemporary of Buddha just as Max Mueller had asserted earlier that they were contemporaries of king Nanda two hundred years later Having declared that the earlier sutras were composed in c 600 B C , Roychowdhury further declared that Janaka was also their contemporary, and further that Janamejaya was 5 generations earlier than Janaka In short he held that Parikshit, the father of Janamejaya was 7-8 generations earlier than Buddha (6th century), and, taking 30 years per generation, concluded that the Bharata battle took place in 9th century before Christ (say, in about 850 B C )

What was the basis of Roychowdhury's findings ?

Roychowdhury depends primarily upon the vamsa of the Sankhayana Aranyaka (p 27 28 PHAI) which reads as follows

"Om ! Now follows the *vamsa* Adoration to Brahhman Adoration to the teacher We have learnt this context Gunakhya Sankhayana, Gunakhya Sankhayana from Kahola Kaushitaki, Kahola Kaushitaki from Uddalaka Aruni "

Uddalaka Aruni is held to be a contemporary of Janaka of the Upanishads Further, from Majjhima Nikaya II 147 Roychowdhury finds Assalayana of Savatthi who is '*tinnam vedanam paragu, sanghanti kethubhanam*' i e an expert in the three vedas and proficient in katubha or, the Kalpasutras He concludes that this teacher was the same as the Kaushalya Ashwalayana of the Prashna Upanishad He holds further, that this, the *Assalayana of the Majjhima Nikaya, was the Assalayana who composed the Grihya sutra*

(The process is tortuous For holding the Vedangas to be contemporaneous of Buddha, it was sufficient to find Assalayana of Majjhima Nikaya to be the composer of the Grihyasutra)

minister of Nanda, because Roychowdhury insists that Pakudha Kacchayana of the Dighanikaya, also contemporary of the Buddha, is none else than the Vedic Kabandhi Katyayana and a contemporary of Assalayana.

Thus, according to Max Mueller, Katyayana is a contemporary of Nanda, while according to Roychowdhury he is a contemporary of Buddha who lived two centuries earlier. Yet, the followers of Western Indology see no inconsistency. In particular, why has Roychowdhury ignored the specific mention of *Itihasa-pancamanam*—i.e. the 'Mahabharata' as being so well known in Buddha's time as being taught to school children ? Was it silently ignored because Max Mueller had earlier laid down the *fiat* that the Mahabharata *must* be after 200 B.C.?

The fact of the matter, is that Roychowdhury, like Keith later, is merely indulging in relative chronology i.e. trying to find the relative seniority between the kings and the teachers. After doing so, they jump to an absolute date either on no material (Keith) or on the flimsiest of pretexts (Max Mueller, Roychowdhury). I think that absolute chronology is much more difficult than relative chronology, and one may not venture in it without sufficient facts.

For instance, do the enthusiasts like Roychowdhury realise that by proving Dasaratha to be later than 900 B.C., they are also raising the ghost that the entire 6th and the 7th mandala of the Rigveda and the battle of the ten kings was fought after 800 B.C. ?

*The intending chronologist should remember that the days of isolated ad hoc synchronisms and identification by names are* over. *Every single identification will now have to be closely linked backward as well as forward in a frame of reference where the dynastic number play the key role.*

**A note on Janamejaya, and Indrota Devapi Shaunaka :**

In the Shatapatha Brahmana, it is mentioned *inter alia*, that Janamejaya, the son of Parikshit, had performed a horse sacrifice in which the chief priest was Indrota Devapi Shaunaka. The identity and chronology of this Janamejaya has given rise to endless controversies.

Pargiter was very clear in his mind He immediately realised that there were two Parikshits and each had a son named Janamejaya (Pargiter had mentioned several such pairs in his book) Parikshit I—the first Parikshit—was the son of Kuru and was given the dynastic number of 73 His son called Janamejaya II was given the dynastic number of 74 On the other hand the second Parikshit (i e Parikshit II) was the son of Abhimanyu and his son was also called Janamejaya—viz, Janamejaya III by Pargiter Further, Pargiter held that Indrota Devapi Shaunaka had performed the *Ashwamedha* for the first Janamejaya, and, therefore, in the rishi list (AIHT, p 192), he assigned the dynastic number 73 to this rishi This is simple and clear, though he cited no collateral support for these dynastic numbers

Later authors have tried to complicate matters by identifying Parikshit I, the son of Kuru, with Parikshit II, the son of Abhimanyu The dynastic number of Parikshit II, the son of Abhimanyu is 96, and thus 23 generations have been sought to be wiped off the Vedic history

Roychowdhury first sought to equate and identify these two Parikshits This was due to the numerous mentions *about Parikshits* in the Brahmanas, Atharvaveda, Mahabharata and the Puranas Sometimes they relate to Parikshit I and sometimes to Parikshit II and, hence, the confusion This confusion is very similar to Roychowdhury's identification of Siradhwaja Janaka (Sita's father), with the Janaka of the Upanishads The former had a dynastic number of 64, while the latter had a dynastic number of 94, and, thus, 30 generations were wiped off the Vedic history again

An effort will now be made to check the dynastic numbers given by Pargiter from independent data

Max Mueller has given the Vamsa Brahmana of the Samaveda (HASL p 233 34) where the name of Indrota Devapi Shaunaka is found The teaching succession (*vidya vamsa*) is given in detail and also finds the names of Vibhandaka and Rishyashringa—well known from the Ramayana and the Mahabharata Rishyashringa, the son of Vibhandaka, was

seduced by public women and was later married to Shanta, the daughter of Dasaratha. (Shanta was adopted by Lomapada, the friend of Dasaratha.) It is also known from the Ramayana that it was Rishyashringa who performed a sacrifice for Dasaratha for the boon of a child. All these details show unmistakably that Dasaratha, Rama, Vibhandaka and Rishyashringa were all contemporaries. Pargiter was therefore, fully justified in giving the dynastic numbers of 63 to Vibhandaka and 64 to Rishyashringa. Unlike Roychowdhury, Pargiter's synchronisms and dynastic numbers are fully justified.

Max Mueller's detailed list of the *vamsa* of the Samaveda (HASL, 234) may now be compared in detail with the king lists of Pargiter (AIHT, p. 146), from and after the dynastic number 63. They will automatically define the synchronisms and, therefore, the dynastic numbers of the rishis of the Vamsa Brahmana as follows :—

| Dynastic Number | Rishi list (Max Mueller) | Ikshwaku (Pargiter) | Pauravas (Pargiter) |
|---|---|---|---|
| 63. | Vibhandaka Kashyapa | Aja | Riksha I |
| 64. | Rishyashringa | Dasharatha | ... |
| 65. | Mitrabhu | Rama | ... |
| 66. | Indrabhu | ... | ... |
| 67. | Agnibhu | Kusha | ... |
| 68. | Shavas | Atithi | ... |
| 69. | Devataras | Nala | Sambarana |
| 70. | Pratithi Devataratha | Nabhas | Kuru |
| 71. | Nikothaka | Pundarika | Parikshita I |
| 72. | Vrishashushna Vatavata | Kshema Dharman | |
| 73. | Indrota Shaunaka | Devanika | Janamejaya |

Thus, the generation gap of ten rishis in the Vamsa Brahmana of the Samaveda tallies perfectly with the analysis of dynasties and synchronisms proposed by Pargiter. There was thus a succession of ten generations of teachers just as there was a succession of ten generation of kings. The Vidyavamsa and the Yonivamsa are thus shown to be in perfect tune with each other, just as was the case with the Aditya sampradaya and the kings of Koshala and Videha.

It is unfortunate that in the sub equent long list of teachers there is neither any Vedic rishi nor Puranik rishi who can be synchromised with any renowned king and, therefore, no further identification is possible However, the list is being examined for further clue in this direction

**Archaeological method**

The Archaeological Survey of India apparently subscribes to the view that the Bharata battle is a fact of history, and that it took place in about 900 B C Although Dr Sankalia and Dr Sircar once came out with the thesis that the Bharata battle is a myth—most archaeologists and historians do not subscribe to that extreme view The opinion of Prof B B Lal, the *former Director General of the Archaeological Survey of India*, can be summed up as follows

1 He follows Roychowdhury (—Pargiter's) system of chronology
2 He thinks that Hastinapur and Ahicchatra excavations reveal the Mahabharata sites
3 On the basis of the Puranic dynasties of the Kali age, he *thinks that the battle took* place probably in *836 B C* and, finally, the most important,
4 That the Painted Grey Ware belongs to the Pandavas

One can now take up the evidence of the archaeological finds apart from the individual opinions

To begin with, one must realise that the date of 836 B C (or any date near about it) *does not follow from any archaeological material at all, but that it is derived from the Puranas* Archaeological material found from Hastinapur and Ahicchatra suffer from one vital shortcoming there is no inscription of the time Nor is there any demonstrable cross contact with any dated king either in India or abroad

In the absence of *any* archaeological evidence of this kind, the voice of the pottery or potsherds is, at best, inconclusive How can one assert, for instance, that the painted grey ware

means the Pandavas, and nothing but the Pandavas? It is a conjecture—very plausible conjecture perhaps—but yet, it is only a conjecture.

New light has been thrown on the subject by the recent excavations of Shri J.P. Joshi at Bhagwanpura which lies at the heart Kurukshetra. Joshi has found P.G W. *in juxtaposition with the late Harappan ware* at the site. The history of the P.G.W. is at once extended by a few centuries—perhaps to 14-1600 B.C. and more. Will the archaeologists stick to their theory of PGW=Pandavas, or will they offer some alternate hypothesis to fit in their finds with the Western chronology? It would be rash to jump to any conclusion and one should await with interest the further analysis of the material by Joshi and his team. It is undoubtedly an important find and merits a close unbiased analysis.[1]

Incidentally, the radio carbon technique is also helpless in determining the date of the battle, because no organic material has been found so far which could be unmistakably linked either with the Pandavas or with the battle.

In short, the archaeological material found so far does not help in dating the battle. The date 900 B.C etc, is not suggested by any archaeological material, but by the Puranas as read by Roychowdhury—Pargiter.

1. As at present, Joshi's excavations would seem to support the chronology herein proposed.

# III

# Purana and Itihasa

## 1. Preliminary

It is often said by modern students that Puranas are historically worthless because they were composed (viz written for the first time) in the Gupta period, or in about the fourth century of our era This is so asserted because the Puranas contain narration of events of the early Gupta age

On the other hand, the conservatives assert that the Puranas were contemporaneously composed and kept up to date by successive editors (called Vyasas) that they are wholly reliable

It is therefore, necessary to find the true facts about the composition of the Puranas so that their evidentiary value could be properly judged

## 2 Introduction

In Indian Sanskrit literature, '*Purana*' means ancient history—the word being derived from the root *pura* which means 'ancient' or 'old

Vyasa, the son of Satyavati is traditionally regarded as the reorganizer of the Puranas In his time (c 1508—1390 B C ) the Purana had this sense and the word *Itihasa* (*iti—ha—asa* or *iti ha—asa)* meant 'current' history (vide p 3 *infra*) Thus, Mahabharata which was the Itihasa, recorded the contemporary history of Vyasa's time, while Purana was history which was ancient even in Vyasa's own days

Vyasadeva who headed a school with a brilliant band of scholars (c 1450 B C ), took up the subject of history (ancient

and current), organised the subject, collected materials and directed his disciple Romaharshana (also called Lomaharshana) to prepare a text on the ancient history of *the world.* Vyasa himself took up the subject of 'modern' history i.e. contemporary events of his own life time (the principal event being the great Bharata battle) and dictated its kernel (=JAYA) to Ganesha.

The preparation of the text of the ancient history of the world, the Purana proved to be a gigantic task calling for stupendous efforts : it took two generations of workers and was completed only by Ugrashrava, the son of Romaharshana. The final authorised text of the Purana was recited for the first time by Ugrashrava Sauti, in the Naimisharanya conference of sages which took place in c. 1316 B.C., under the presidentship of Shaunaka who was not only a great scholar but also a great lover and a very rich *(maha-shala)* patron of learning. This historic event of the Naimisharanya conference took place during the reigns of Adhisimakrishna, Divakara and Senajit—the contemporary kings who ruled at Hastinapur, Koshala and Magadha respectively.

When Ugrashrava (popularly also called Sauti) delivered the Purana, the problem arose as to how to record the future history in a continuous manner. They decided to keep the great work initiated by Vyasa alive and...to continue the Purana. It was decided Sauti would remain the symbolic narrator of history and future history (history of the future kings) would be narrated in the future tense even though recorded *after* the event. Thus was the Bhavishyat Purana (the 'future ancient history'!) born. Pargiter considers that there was originally only one Bhavishyat Purana and from this source the 'future' sections of Vayu, Matsya, Vishnu and Bhagavata Puranas were constructed.

The system continued, according to Pargiter, till the rise of the Guptas i.e., down to about 350 A.D.

### 3. Itihasa-Purana

The words Itihasa and Purana are very ancient words, going back at least to the early Upanishads.

a) In the Brihadaranyaka Upanishad, Yajnavalkya says that 'Itihasa and Purana' are among those subjects which were created by God himself (B U 2 4 10).

b) In the Chandogya Upanishad, Narada says that he knows 'Itihasa and Purana' among other subjects (Ch U. 7 1 2) The word pair is repeated in the same section in 7.1 4, 7 2 1 and 7.7.1.

c) In the Chandogya Upanishad, highest praise is accorded to 'Itihasa and Purana' when it is mentioned along with the Atharva-angirasa (Ch U 3 4 1)

d) The word-couple *Itihasa Purana* appears in A V. XV—6—(11-12)

The word couple Itihasa-Purana is, of course, mentioned many times in the Puranas as well as in the Mahabharata

As has been already shown, these quotations from the Upanishads may be safely dated to c 1400 B C, particularly because they are appearing in *Swarankita* shrutis.[1]

Two questions arise why are the two words *always* coupled together in these ancient texts? Secondly, why is Mahabharata—and no other text—called an Itihasa? These questions cannot be answered by the present meanings of the two words (Today, Itihasa means history while Purana is taken to mean myths and legends of olden times)

As suggested above, they can only be explained if they are taken as related concepts—the words giving colour to each other—*noscitur a soccis* As two words with distinct but complementary meanings . as different sections of the same discipline As suggested above, the entire subject can be properly understood if, and only if, it be taken that in the times of Vyasa, Yajnavalkya, Narada (i e. in c 1400 B.C), Itihasa-Purana taken together meant HISTORY In particular, Purana meant 'ancient' history and Itihasa meant 'current' or 'modern' history (Modern, of course, meaning *modern in Vyasa's time* i e.,

1. See A I, pp 55 et seq

in c. 1400 B.C.) Hence, Itihasa meant contemporary history. It is now clear why Mahabharata (and no other book) is given the appellation of Itihasa. This analysis shows that in c. 1400 B.C. the phrase *'Iti-ha-asa'* meant 'it happened recently' while Purana meant 'It happened in *pura* i.e., in ancient time'. (As will be presently explained, after 108 years i.e. after one Paitrya yuga, Itihasa became Purana, when a Samhitakara took over.)

*Caution :* The proposed interpretation differs from the prevailing opinion : This is so because—the proposed interpretation is derived from the contents of the original texts of 1400 B.C., while the prevalent meanings are derived from dictionaries (like Amarkosha) composed in c. 500 A.D. The proposed interpretation seeks to arrive at the original meanings—those prevalent in the period of the Upanishads and Bharata battle i.e. in 1400 B.C. *Itihasa of Vyasa naturally became ancient history in course of time :* In fact, it was ancient even in Buddha's time (c. 500 B.C.)

### 4. (a) Subject matter of a Purana

According to the original Vyasian prescription, a Purana (Ancient History) was to cover FIVE subjects viz. *Sarga* (cosmic period), *Pratisarga* (evolution), *Vamsa* (prehistoric dynasties), *Manu-antarani* (Six patriarchates before the flood) and Vamsanucaritam (detailed history of post-flood kings) :

It was very clearly stated by Vyasa that before Manu Vaivasvata, the dynasty was *MANASA* i.e., legendary, while after him the dynasties were *Yonija* i.e. actual history. Historians also would be interested mainly in the *Vamsanucaritam* i.e. dynasties of 3100—1400 B.C., as this represents the hard core of the history of the Vyasian Purana.

### 4. (b) Itihasa or current history

Vyasa himself recorded contemporary history, from his own birth down to Bharata battle (c.1424 B.C.). Vyasa dictated the kernel of this history (=Jaya), immediately (said to be

cular, Romaharshana, his son Ugrashrava and six others above mentioned) in c 1414—1316 B C In our opinion, the six others mentioned above took active part in preparing different versions and drafts sifting and weighing the material for ascertaining the truth preparing final drafts (mula Samhitas) before the standard text was finally prepared by Ugrashrava Sauti

**6 Periods of Indian protohistory**

Indian protohistory could be conveniently divided into two main periods separated by the great watershed of the Bharata battle which took place in c 1424—14 B C In fact one can broadly depict the Indian protohistory as follows

*Before Christ*

| | | |
|---|---|---|
| A | 3100—1500 B C | Pre battle period |
| B | 1500—1390 B C | Battle period |
| C | 1390— 400 B C | Post battle period |

The pre-battle period (3100—1500 B C ) saw the composition of the early Vedic hymns The events are described contemporaneously in the Rigveda and *ex post facto* in the Puranas and the Ramayana

The battle period (1500—1390 B C ) is recorded in minute detail in the Mahabharata which has been called Itihasa (=contemporary history) and was composed initially by Vyasa himself Very full information of the high culture attained during the period is available in the contemporary Upanishads, which fortunately for the historian has been preserved almost intact and without any interpolation Minute details of the social and religious life and customs are available in the Kalpa sutra literature A complete description of the professions and avocations are available in the little explored *Purushamedha yajna* narrations of the Shukla Yajurveda

The post battle period (1390—400) B C was covered in the Bhavishyat Purana which was history continuosuly recorded in the future tense as pointed out above This was necessitated because of the fiction that all history is composed by Vyasa

and narrated by his pro-disciple Sauti, in the conference of the sages at Naimisharanya (c.1316 B.C.)

The Vedic period proper (3100—1400 B.C.) was further subdivided by Vyasa in two sub periods of Treta yuga (3100—2000 B.C.) and Dwapara Yuga (2000—1400 B.C.). The junction or the *sandhi* period (2030—1930) B.C.—which was indeed a turning point in history of the world because it saw the final emergence of the Aryan power—was marked by great battles; there was the great Deva-Asura war which lasted for a century (2130—1930 B.C.), in which the Iranian and Harappan powers were finally destroyed; and the battle between Rama and Ravana in which the Rakshasa power was destroyed by the Ikshwakus. The Deva-Asura battles in which Divodasa, Cyavana and Sudasa overcame the non-Vedic Aryans (the Iranians and the Hariyupeans) were recorded in the *danastuti* hymns of the Rigveda by the contemporary rishis Kakshivan, Shaktri and Parashara (Vasishthas), Bharadwaja, Viswamitra IV, and Vamadeva etc. The most important battle was the battle of the ten kings which has been covered in as many as *three* hymns of the Rigveda. The battle between Rama and Ravana is covered *ex-post-facto*—in the Ramayana; and the exploits of the Raghuvamsa were also sung by Kalidasa which contain unexpected historical material[1].

Dasaratha and Divodasa were contemporaries and they both fought as allies against the allies of Shambara, the great Hariyupean[2] king.

It is interesting to recall that Shakti, Parashara I, Bharadwaja, and Valmiki who wrote about these battles were all included in the list of great historians (Vyasas of the former ages) in the Purana. Vamadeva, a contemporary of Rama Dasarathi eulogised Sita as the goddess of agricultural revolution (c.2000 B.C.)

1. Ramayana and Raghuvamsa are both Kavyas: However, Pargiter considers (and we agree with him) that Raghuvamsa is more reliable than Ramayana, so far as history *before* Rama is considered.
2. Hariyupea=Harappa

The Indian proto-historical periods can, therefore, be described as follows

| | |
|---|---|
| 3100—2150 B C | *Treta yuga* the early Vedic period |
| 2150—1930 B C | *Yuga sandhi* Middle Vedic age Deva Asura war Dasa rajana battle Contemporary danastuti by Kurusuti, Kakshivan Shakti, Parashara, Bharadvaja, Viswamitra IV, etc Battle of Rama and Ravana depicted later in the Ramayana |
| 1930—1414 B C | *Dwapara Yuga* the late Vedic age |
| 1414—1316 B C | *Yuga sandhi* the great synthesis masterminded by Vyasa and achieved by Sauti |
| 1316—300 B C | *Kali Yuga* Smriti or Pauranic literature History dawns in 600 B C Appearance of Buddha, and Jina, Nanda destroys the millieu, and the Mauryas emerge British historians take over with Alexandar |

**7 Collecting, digesting and editing of the material The ancient historians**

According to the Puranas themselves, Purana is continuous history Current material is collected by the *bandins*, the *magadhas* and the *sutas* of which the former two were state functionaries and the *suta* was an expert attached to no particular state *Bandins* were the singers (eulogists and panegyrists) who sung praises of the king at dawn The *magadha* kept genealogy and the history of king's ancestors and narrated them at the state functions and anniversaries *Sutas* were historians who collected materials from the magadhas of the different states and prepared coherent summaries which were recited at great sacrifices or yajnas (like the Naimisharanya conference) Naturally, the *suta* was not attached to any particular state.

Above them all were the *samhitakaras* who were great rishis or munis (like Vyasa, Vasishtha or Valmiki) who digested the materials and *at regular intervals*, inserted them in the Puranas themselves. *Only they were authorised so to do.*

Vyasa s/o Satyavati was the *samhitakara*, *par excellence*, and his masterly digest has become THE Purana.

'Regular interval' mentioned above was the standard period of 108 years and was called Paitrya yuga. The name Paitrya yuga suggests that it was used only for Pitris i.e. ancestors, their genealogies and chronology. As already pointed out (A.I., p. 141-51), Indian protohistory commenced in c.4350 B.C. when Shiva (=Rudra) fixed the epoch at the equinox at his star Ardra (=Betelguse). Thereafter, history and chronology was kept in Paitrya yugas which were current till Vyasa's time. Thus, Krishna, Brihadvala, Vyasa and Katyayani all lived in the TWENTYEIGHTH yuga. (A table of different kinds of *yugas* is given below :

Puranas say that each yuga had its own *samhitakara* and editor (—Vyasa). Some of the names are :

| Yuga | Samhitakara | Vyasa |
|---|---|---|
| 19. | Gautama | Bharadwaja |
| 20. | Gautama | Niryantara |
| 21. | Vacashrava | Vajashrava |
| 22. | Narayana | Somashushmya |
| 23. | Trinavindu | Trinavindu |
| 24. | Valmiki | Daksha or Riksha |
| 25. | Shakti | Shakti |
| 26. | Parashara | Parashara |
| 27. | Jatukarnya | Jatukarnya |
| 28. | Krishna Dwaipayana | Krishna Dwaipayana |
| 29. | Romaharshana | |
| 30. | Son of Romaharshana | |

It is apparent that the words Samhitakara and Vyasa are interchangable, and there is only a distinction without a difference.

The scheme is based, no doubt, on some historical basis but it is far too complete, symmetrical and elegant to be factual history Some factual basis is to be conceded because Sakti and Parashara (the son of Sakti) were Vasishthas who were Vedic rishis have actually sung about the Dasarajana battle—a battle of actual history—in R V VII-17 Similarly, Valmiki has covered the battle between Rama and Ravana, another, battle of history, in the epic Ramayana

However, though the scheme is complete yet the dates are confused The battle of Rama and Ravana took place in 22nd yuga but Valmiki, an alleged contemporary, is shown in the 24th yuga Similarly, the battle of ten kings was fought in the 23rd yuga, but Shakti and Parashara who witnessed the battle were shown in the 25th and 26th yugas Evidently, there was an attempt at dovetailing the idea of editorship into a neat scheme of successive *paitrya yugas* with their editors, but a confusion arose because there were two Parasharas, Parashara I, son of Shakti Vasishtha, who witnessed the Dasarajana battle lived in c 1930 B C, while Parashara II, the father of Vyasa was born only in c 1528 B C

However, Shakti, Parashara I and Valmiki all reported on actual famous battles of history and, therefore, were rightly included among the historians (Vyasas and Samhitakaras).

Finally, it should be noted that both Purana and Mahabharata were 'open' texts which were expected to be kept up to date Vyasian texts were all open texts unlike the Shrutis, which were all 'closed' texts

**Yuga theory Table 1**

4350 B C =Kalpadi or the epoch beginning the yugas
Maha yuga=3240 tropical year=3339 parivatsaras

*B C*

4350—Kalpadi

| | |
|---|---|
| 4350—4302=Krita sandha | —48 years |
| 4302—3102—Krita yuga | =1200 years |
| 3102—3054=Krita sandhyamsa | —48 years |

**1. Manu Vaivasvata b. 3167 B C.**

| | |
|---|---|
| 3054—3018=Treata sandha | =36 years |
| 3018—2118=Treta yuga | =900 years |
| 2018—2082=Treta sandhyamsa | =36 years |
| | 972 years |

**65. Rama Dasarathi b. 2015 B.C.**

| | |
|---|---|
| 2082—2058=Dwapara sandha | =24 years |
| 2058—1458=Dwapara yuga | =600 years |
| 1458—1434=Dwapara sandhyama | =24 years |
| | 648 years |

**94. Krishna Devaki Putra b. 1466 B.C.**

| | |
|---|---|
| 1434—1422=Kali sandha | =12 years |

**96. Parikshit b. 1422 B.C. : Mahabharata battle.**

| | | |
|---|---|---|
| 1422—1122=Kali yuga | 300 years | |
| 1122—1110=Kali sandhyansa | = 12 years | |
| | 324 years | |
| 1110—1062 Krita sandhyansa | = 48 years | |
| 1062—138 A.D.=Krita yuga (second) | =1200 years | |
| 138—186 A.D.=Krita sandhyansa | 48 years | Ptolemy expounds solar astronomy |
| | 1246 years | |

**Yuga theory : Table 2**

| Age | Sandha | Yuga | Sandhyansa | Total | Years |
|---|---|---|---|---|---|
| Kali (x 1) | 12 | 300 | 12 | 324 | ,, |
| Dwapara (x 2) | 24 | 600 | 24 | 648 | ,, |
| Treta (x 3) | 36 | 900 | 36 | 972 | ,, |
| Krita (x 4) | 48 | 1200 | 48 | 1296 | ,, |
| Total (x 10) | 120 | 3000 | 120 | 3240 | ,, |

**Paitrya yugas : Table 3**

| | |
|---|---|
| Kalpa-adi | =4350 B.C. |
| Krita Yuga | =12 Paitrya yugas of 1296 years...4350—3054 B.C. |
| Treta Yuga | = 9 Paitrya Yugas of 972 years...3054—2082 B.C. |
| Dwapara Yuga | = 6 Paitrya yugas of 648 years...2082—1434 B.C. |
| Kali Yuga | = 3 Paitrya Yugas of 324 years...1434—1110 B.C. |
| | Second cycle (Mahayuga) |
| Krita yuga | =12 Paitrya yugas of 1296 ...1110 B.C.—186 A.D. |

## 8 A misconception

It is often said by modern Indologists that the Puranas are to be wholly rejected or ignored as history because they were composed in the Gupta period (c 300—500) A D

This is a misconception Firstly, the Puranas were *not* composed in the Gupta period but were only made up-to date till the Gupta period, and, secondly, all history is necessarily *ex post facto* Can Majumdar's History of Ancient India be rejected merely because it was written in 1940 A D ?

It has been shown that according to the Puranas themselves they were originally composed in the Vyasian school in c 1400 B C It has been shown also that *Vamsanucaritam*—the historically crucial portion of the Purana (being history of the dynasties from Manu Vaivasvata c 3100 B C to Parikshit c 1424 B C)—was compiled under the direct supervision of Vyasa by Romaharshana in c 1400 B C All the existing material was carefully scrutinised and digested by six disciples, and evidently great care was bestowed to sift the material collected and to find the truth It would be obviously unscientific to reject such carefully collected data on the mere *ipse dixit* of some one It would be presumptuous to say that the love for truth is the monopoly of the modern worker

Subsequent to Parikshit, the history was recorded continuously (though in future tense) in the Bhavishyat Purana In particular, the dynasties of Magadha (the centre of political power where the Puranas were actually kept and composed) were fully recorded They too perhaps cannot be summarily rejected The Puranas were duly uptodated by constant authorised additions These authorised additions were not interpolations and they only enhance the value of the Purana as a historical account

The weaknesses in the Puranas will now be carefully noticed (as well as Pargiter's words to counter them)

1 There is not one but Eighteen Puranas now extant and they do not always speak in one voice Ans Pargiter has effected a tolerable synthesis, particularly of the *Vamsanucaritam* section

2. The names of the *sutas* (editors) after Ugrashrava is not known. This is undoubtedly a weakness.

3. The original *mula-samhita* (the Rohaharshanika) is not available now : Nor are the four drafts by his disciples. This again is a weakness but, as said above, Pargiter has effected a tolerable synthesis of the *Vamsanucaritam* portions of the Puranas.

According to the Puranas, themselves, therefore :—

1. Vamsanucaritam or the dynasties of the kings from Manu Vaivasvata (c.3100 B.C.) to Parikshit (1424 B C.) is the historical core of the Purana. It is of the greatest value in the reconstruction of the protohistory of India. The synthetic version thereof as produced by Pargiter in his masterly Ancient Historical Tradition (=AIHT) can be taken as the THE Purana in English.

2. The dynasties presented in the AIHT give a good prima *facie* history and king list. (at pp. 144—148).

3. Where the view presented is not inherently improbable and where no other material is available, the version presented may be taken as correct *prima facie.*

4. Where a different version is available in a source other than the Purana (e.g. the Rigveda) both the versions should be scientifically weighed to find the truth. Every effort should be made to make an objective synthesis, if that is at all possible.

5. Every effort should be made to draw up a self consistent scheme that is not inherently improbable.

6. In chronology, the major effort should be to establish cross contacts with other dated kings of other countries, if that is at all possible. Failing this, all the determinants of chronology (literature, astronomy, archaeology, radio-carbon technique) should be given due weight in proposing a date.

**Author's opinion**

It is now time to give the author's own opinion in the

matter—which is indeed difficult and not altogether free from doubt The analysis of the facts, traditions as well as a reading of the three main Puranas viz Matsya, Vayu and Vishnu, has left the following total impact on the mind of the present author

(A) In Vyasa's time (c 1400 B C), the importance of history—ancient and current—was keenly felt Vyasa, in particular, realised its supreme importance and undertook a detailed programme to collect all the available historical material He took the help of his disciple Romaharshana, who in his turn was aided by his son Ugrashrava Sauti as well as six others—Sumati Akritabrana Agnivarcas, Maitrayu, Somdadatti and Shamshapayana These NINE men worked for two generations being inspired by Vyasa They sifted the materials prepared different versions and drafts, and ascertained the truth as far as possible The Purana thus brought into being—in particular, the VAMSANUCARITAM OR THE DYNASTIES FROM MANU VAIVASVATA TO PARIKSHIT—is therefore, entitled to highest respect

(B) Coming to the 'modern' history, VYASA HIMSELF TOOK UP THE SUBJECT, and composed the neucleus which blossomed into the Mahabharata The contemporary events ending in the Bharata battle were minutely described The only fault is the fault of all contemporary record viz, bias However, all versions (pro-Pandava as well as anti Pandava) are there, and one is expected to draw his own conclusion It is for you to judge who was right and who was wrong but remember that *all* the material is available in the Mahabharata—the ITIHASA of the time

(C) The history of the days after the Mahabharata or the Naimisharanya conference of 1316 B C is much more difficult The subsequent record—the Bhavishya Purana—shows a sudden deterioration which is apparent even to the casual reader The Vyasian touch is missing The names of the succeeding editors (after Ugrashrava Sauti) is not available The Brahmanical slant becomes more and more prominent, and the narration of dynasties recede into the background

In fact, Vyasa would surely have frowned upon the subsequent work produced *in his name.*

The author would, therefore, rate the reliability of the successive portions as below:

A. Vamsanucaritam from Manu Vaivasvata to Parikshit: Reliability excellent. Facts sifted by nine minds: Overall superintendence of Vyasa himself. Facts verifiable (and verified) from the Rigveda.

B. Mahabharata from Shantanu to the Sarpasatra or practically Vyasa's own life. *Minute details available. Vyasa himself is impartial to the Kurus and Pandavas. Excellent reporting, except that the later versions tend to glorify the victors and denigrate the losers—as is usual in all contemporary history.*

C. Bhavishya Purana or kings after Adhisimakrishna. Reportage incomplete, unsatisfactory, scattered and disjointed. Endless praise of Brahmanism. No verification from independent parallel literature before Buddhas.

In other words, the author himself has much more confidence *in the period 3100* B.C. *to* 1300 B.C. than in the period 1300—600 B.C. The date of the Bharata battle will have, therefore, *to be independently determined: hence, the* emphasis on the astronomical method to test the truth of the Puranic tradition "Nanda was coronated 1015 years after the birth of Parikshit".

# IV

# Chronological Framework of Indian Protohistory (3100-1300) B.C.[1]

Various attempts have been made from time to time to fix some chronology of protohistoric India, but they all suffer from one crucial defect Each method, so far attempted, follows only one technique and is oblivious of all other methods and facts Thus, Max Mueller on the basis of literary styles, said, that the earliest hymn of the Rigveda was composed in c 1200 B C and his followers shut their eyes to all other facts of history

Common sense dictates that in the determination of chronology, one should fix the dates of individual kings and rishis first and then see whether any cross-contact with the dates of kings and events of other countries is possible Strangely enough, both these methods have been scrupulously avoided in India The result is that we have a mass of opinions—each subjective and strongly opposed to all others The result is a complete chaos and a tower of Babel

We have, on the other hand, tried to make a synthesis of all the techniques and all the data—literary, astronomical, radiocarbon as far as possible, and finally cross contacts with other ancient countries

The present essay shows, *inter alia*, that the proposed chronology is in consonance with (or, rather, are not inconsistent with) the dated kings of other countries

**Relative Chronology**

For this purpose we have taken the

1 See also S B Roy JBRS Vol LVIII, pp 44 5ff And for a full account the author's forthcoming book "Vedic Chronology, 3100—1300 B C.", in press

very careful and masterly analysis of the Puranas made by Pargiter. In any serious study of Indian chronology, Pargiter's name should be mentioned next to Vyasa.

From his studies, it is possible to draw up a complete list of kings from 1.Manu to 155.Pushyamitra. There is a gap of only ten names in the Kali-age but it can be made up from other data.

By marking the successive kings with serial numbers we get a complete set of dynastic numbers. With this simple expedient, one gets a perfect system of relative chronology. An abstract of the important kings' and rishis will be given presently.

For determining the absolute dates, we take the help of astronomy. From the analysis of the Rigveda and also by reference to the Puranas, the Mahabharata and the Sutras the following data are obtained :—

1. Nabhanedistha s/o Manu, observed that the autumnal equinox was taking place when there was Furnima (full moon) at Rohini (Aldebaran—69°), and he composed the hymn R.V. X/61/5-9 on this event. Manu, the paramount king, ordained that the year (both sacrificial and civil) should begin when there was full moon at Rohini.

Astronomically, it can be determined that the epoch of this event was c.3,070 B.C. Hence, the epoch of Nabhanedistha, Manu and the date of R.V. X/61/5-9 is about 3,100 B.C.

2) Viswamitra II observed that the vernal equinox had shifted (by precession of the equinox) to Krittika Purnima (Alcyone—59°). Viswamitra II was the father-in-law of king Bharata : They were contemporaries of the great astronomer-poet Dirghatamas.

The paramount king Bharata, with the help of the astronomer rishis Viswamitra II and Dirghatamas, ordained that the new year should begin with the full moon at Krittika. A nakshatra list with Krittika at its head was drawn up. The epoch of the event can be astronomically worked out to 2,350 B.C.

Hence Bharata, Viswamitra II and Dirghatamas lived in c 2,350 B C The great astronomical hymn R V 1/164 was composed by Dirghatamas in c 2,350 B C

3) The next important observation was by Vamadeva, the composer of the IVth mandala of the Rigveda He was a contemporary of Dasaratha, Rama and Somaka, the son of king Sudasa of the Dasarajana battle He observed that the vernal equinox took place ten days after the heliacal rising of the Dogstar and from this observation P C Sengupta has estimated his date at c 2000 B C

4 The next important step was taken by Vagambhrini, the *rishika* of the celebrated Devi Sukta (R V X-125) and the founder of the world renowned Aditya sampradaya (the sun school) of Videha She declared the winter solstice on Magha Shukla Pancami and she is worshipped to this day as Vag devi on this tithi Her supporter was king Shruta of Videha (D N 85) King Hiranyanabha started collecting the Vedic hymns in Vagambhrini's time The epoch of this event was 1,630 B C Hence Vagambhrini, king Shruta and Devisukta can be dated to c 1,630 B C

The Vedic period ended in c 1,450 B C when Vyasadeva, after the continuous labour of 200 years of his predecessors, redacted the Rigveda and made it into a closed canon Thereafter, Shaunaka, Ashwalayana and Katyayana (who all belonged to one school) prepared exhaustive indexes This was done upto 1,320 B C

*Since 1,320 B C not even half a syllable has been (or could be) changed in the Rik Samhita, or its pada text*

Composition of the Vedic hymns ended (and *not begun*, as Max Mueller thought) in c 1,100 B C

5 The next astronomical event observed was the winter solstice at the amavasya (New Moon) at Dhanistha This was observed by Lagadha and with the help of king Suci (D N 103) of Magadha, he ordained that the new year should begin at the new moon at Dhanistha The epoch was 1,270 B C. The

*date of Vedanga Jyotisha composed by* Lagadha and Suci is, therefore, 1,270 B.C.

6. The fifth astronomical event was the observation of Ashwalayana, that there was an actual *star at the celestial* pole. The star was K. Draconis and the observation was made in c.1326 B.C.

7. Finally Baudhayana's date is found to be c.(1370-1320) B.C. (see chapter V, *infra*).

Thus, there were six astronomical observations and we know the names of the observers with their dynastic numbers :

| Kings & rishis | Event | Circa |
|---|---|---|
| 1. Nabhanedistha & Manu (D.N. 1) | Autumnal Equinox at Rohini | 3,070 B.C. |
| 2. Viswamitra II, Dirghatmas, Bharata (D.N. 42) | Autumnal Equinox at Krittika : winter solstice at Magha | 2,350 B.C. |
| 3. Vamadeva and Rama | Heliacal rising of Dogstar | 2,000 B.C. |
| 4. Vagambhrini; king Shruta (D.N. 85) | Winter solstice on Magha Shukla Pancami | 1,630 B.C. |
| 5. Ashwalayana (D N. 100) | K-Draconis as the pole star | 1,326 B.C. |
| 6. Lagadha, king Suci (D N. 103) | Winter solstice at Dhanistha | 1,270 B.C. |

With the help of these observations and the names of their observers, the relative chronology of Vyasian system defined by its dynastic numbers can be scientifically converted into an absolute system.

With this absolute chronology one can locate certain events of the Rigveda which happened in other countries : These events are already dated satisfactorily, and the proposed chronology is, therefore, confirmed.

The synchronism is as follows —

| D N | Date of birth | Age of Divodasa | Event | Cuniform dates from the king list |
|---|---|---|---|---|
| 63 | 2,051 B C | (70-80) years | Installation of Indrota (1 981 1,971) | Installation of Indatu l, 970 B C |
| | | (60 80 yrs) | Encounter with Emusha king of Larsa | Emissum, king of Larsa (2,004 1,977) B C |
| | | | Alliance with Hushrava and killing of Turvasu | 1975 B C |

If, the proposed identification (a) Indrota, the protege Divodasa with Indatu I the simaska king of Ur and (b) of Emusha with the king Emissum of Larsa be accepted, then the seal of absolute accuracy would be stamped on the proposed chronology because they have been already firmly dated The Danastu i hymns of the Rigveda would prove to be truer than history *Let one who understands judge*

Incidentally, king Hushrava lived in c 2 000 B C because he was a junior contemporary of Divodasa It follows that king Vistaspa would be born in c 1,950 B C and the Gathas of Zarathustra would be sung in Asuri dialect in c 1 900 B C Further, Vistaspa the patron of Zarathustra, is found in Ishtashwa of the Rigveda, while Arjasp is located in Rijraswa, all mentioned by the contemporary rishi Kakshivan in c 1900 B C This analysis would fully justify the Iranian tradition that Zoroaster 600 years before the battle of Troy

This shows that the usual argument that ' Rigveda cannot be older than 1,000 B C. because Avesta was composed in 600 B C. has no substance By confusing Kabandhi Katyayana with Vararuci Katyayana 1,000 years of Indian history was erased In Iran it was better, for, by confounding Vistaspa II (father of Darius) with Vistaspa I (Patron of Zarathustra), 1,300 years have been rubbed out of Iranian history

**2. The table of absolute dates : (3100—1400) B.C.**

Basically, the period covered is from 1. Manu Vaivasvata to 96. Parikshit, son of Abhimanyu, because the *vamsanucaritam* of Vyasa gives a continuous list of 96 kings from Manu to Parikshit. Taking the Suryavamsa list as the basic frame because that was the most complete, Pargiter worked out a detailed synthesis and synchronism of all the known dynasties. Taking Manu as c.3100 B.C. (the date of the flood) and Parikshit as about 1400 B.C. (1000 years before the coronation of the Nanda), a rough basic frame can be drawn which gives the reasonable age differential of 18 years per king. This gives a satisfactory table of *relative* chronology, particularly if also marked with the dynastic numbers (herein called D.N.)

This table of relative chronology has been converted into a more accurate system of absolute dates by means of the *astronomical observations, their observers and isochronous* kings mentioned in the Rigveda and the Vyasian Purana as briefly noted above. It has been found that there is a very satisfactory *concordance* between *the* Rigveda *and* Puranic systems. The chronological system thus worked out can be given in a neat formula :

T—(3185—18 x N) B.C.

where N is the dynastic number, and T is the date of birth (in B.C.) of the king. The formula can be applied from the dynastic number 1 to the dynastic number 90, after which detailed dates are available in the Mahabharata itself and in the contemporary texts down to 103 Suci, son of Vipra. Some of the dates in this scale at the intervals of 20 kings are as follows :

| Dynastic number | Date of birth | Dynastic number | Date of birth |
|---|---|---|---|
| 1. | 3167 B.C. | 61. | 2087 B C. |
| 21. | 2807 B.C. | 81. | 1727 B.C. |
| 41. | 2447 B.C. | | |

What is remarkable about this abstract scale is that it is apparently not confined to India alone but is applicable even to Iran Thus, Berossus, who wrote a history of the ancient West Asia in c 290 B C on the basis of the ancient material available to him, stated that the 87th king of the Kasshu dynasty (i e the Kassites) sacked Babylon The Kassites are known to be of the Aryan stock, and according to the Vyasian scale, one finds that 87th king was born in c 1621 B C which would suggest the fall of Babylon at about 1591 B C, if the age of the king be taken at 30 years at the time of the conquest The modern scholars have established that the Hamurabi dynasty of Babylon fell somewhere in 1600—1590 B C (Vide Chronology—Cambridge Ancient History) The event thus fits very well in the Vyasian scale The total coincidence is no doubt fortuitous, but, none the less it strongly points to the general soundness of the astronomical cum dynastic chronology herein proposed

Incidentally, this concordance breathes life into the tradition mentioned in the Mahabharata, that Visalabuddhi Vyasa had composed a history of the ancient world

There are other synchronisms also e g the synchronism of Divodasa with Hushrava of Iran, Indatu of Ur, and Emissum of Larsa In fact, the fall of Ibbi Sin of Ur Larsa has been satisfactorily dated to c 2005 B C, when Divodasa was about 46 years of age This remarkable synchronism points to the plausibility of the proposed chronological system Other such synchronisms would overburden this short non technical essay full account will be available in the author s forthcoming book Vedic Chronology 3100—1300 B C (*in press*)

The reader would perhaps be keen to have a table of Vedic and Puranic kings, and seers of the period, with their dates of birth A small abstract of the important kings and the seers is given Any other date could be easily computed from the formula given above, down to Dynastic number 90—after which the parameters change

**Important kings and seers of Indian protohistory :**

| Dynastic number | Date of birth (B.C.) | Kings | Rishis |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| | *Indo-Iranian period : Early Vedic Age* | | |
| 1. | 3167 | Manu Vaivasvata | |
| 2. | 3149 | Nabhanedishtha | |
| 3. | 3131 | Pururavas | |
| 4. | 3113 | Ayu | Swarbhanu (Asura); Atri (Total solar eclipse) |
| 6. | 3077 | Yayati | Sharmistha and Devayani |
| 7. | 3059 | Puru | |
| 21. | 2807 | Mandhata Yauvanashwa | |
| 31. | 2627 | Arjuna s/o Kritavirya : Ravana I | |
| 32. | 2609 | Trishanku; | Vishwamitra I |
| 33. | 2591 | Harishcandra | |
| 34. | 2573 | Rohita | Madhucchandas; Sunahsepa |
| 41. | 2447 | Sagara | Dirghatamas |
| 42. | 2429 | | Vishwamitra II; Kapila |
| 44. | 2411, 2393 | Bharata s/o Dushyanta | |
| 49. | 2303 | ... | Garga (Briddha) |
| | *Transition : Middle Vedic Age* | | |
| 62. | 2069 | Raghu | *Conquest of Iran* |
| 63. | 2051 | Divodasa; Aja Shambara; Ibbi-Sin; Emissum | *One hundred years Deva-Asura war begins* |

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| 64 | 2033 | Dasaratha, Ravana II, Indrota | |
| 65 | 2015 | Rama, Soma | Vamadeva Gautama *(Fall of Rakshasa empire)* |
| 66 | 1997 | Srinjaya, Hushrava | |
| 67 | 1979 | Chyavana | *(Fall of Haryupia i e Daravas)* Shakti and Parashara Vasishthas Kakshivan Ausija Zarathustra |
| 68 | 1961 | Sudasa II, Vistaspa | Vishwamitra IV *(Dasa Rajana battle)* |

*Indian period Late Vedic Age*

| | | | |
|---|---|---|---|
| 74 | 1853 | Janamjaya | Indrota Devapi Saunaka |
| 83 | 1683 | Hiranyanabha | Vagambhrini *(Devi sukta)* |
| 85 | 1655 | Shruta s/o Suvarcas | |
| 87 | 1619 | Kassite king (?) who conquered Babylone | *(Fall of Hamurabi dynasty at Babylon 1595 B C )* |
| 90 | 1565 | Santanu | |
| 91 | 1524 | Bhisma | |
| 92 | 1508 | Vyasa | |
| 93 | 1490 | Vicitravirya | |
| 94. | 1472 | Yudhishthira, Janaka | Yajnavalkya, Maitreyi, Gargi, (The world famous Sun-school of Videha) |
| 95 | 1442 | Abhimanyu | |

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| | | *(Mahabharata battle)* | |
| 96. | 1424 | Parikshit; Queen Theyi | XVIIIth dynasty of Egypt |
| 97. | 1400 | Akhenaton | Established a sun-school at Akhet Aton |
| | | (Boghus Keui treaty) | |

For a table of kings from 96 Parikshit to Nanda, see chapter VI *infra*.

## Further reading

*Journals*


1. E. Baity, Archaeoastronomy and ethnoastronomy so far, *Current Anthropology*, Oct 1973, pp. 389-448. (Comments by Roy on the Indian contributions at p. 436).
2. S.B. Roy, Chronological infrastructure of the Indian Protohistory, *Journal of the Bihar Research Society*, Vol. LVIII, pp. 44-78.
3. S.B. Roy, Harappan Chronology, an integrated study, *Puratatva*, No. 7, p. 65.
4. S.B. Roy, Vedic Chronology, *Journal of the Andhra Research Society*, Hyderabad, Vol. XXXIII, p. 75-81.
5. For a popular version, please see 'Lost Civilizations, *Sunday Standard*, Nov. 30, 1975.

*Books :*

1. S.B. Roy, Ancient India, a chronological study, Institute of Chronology Delhi.
2. Please also see appendix I

# V

# Baudhayana and the Sutra Literature

**Preliminary**

The importance of the absolute date of Baudhayana and the sutra literature arises from the fact that it is uniformly admitted (without *any* exception) that the Vedanga literature was composed *after* the Bharata battle If the date of Baudhayana, the earliest sutra kara could be determined, then it could be said with some measure of confidence that the Bharata battle was anterior thereto

It is indeed strange that no attempt has been made so far to determine scientifically the date of *any* sutra kara The Western Indology takes the famous *ipse dixit* of Max Mueller 'Vedanga literature—600—200 B C', and, after examining the relative seniority of the authors, proceed to fit them in the frame of 600—200 B C It has been shown in chapter II, that Max Mueller's dictum is not acceptable because its sole evidence is that of a ghost story Ignoring this for the time being, an effort is now made to determine the dates of the *sutra karas* from the astronomical observations made by them As copious observations (*SIX independent observations are known*) are found in the texts and there is no problem of supposed interpolations therein, a fairly satisfactory dating of the sutra literature is possible

A related question is about the date of Panini However, this is of crucial importance in Indology, and, therefore, an exhaustive analysis has been made

elsewhere[1].

The chronological analysis of the sutra literature now follows. The interested reader may also look into the analysis—as given in A.I. pp. 23-34. to appreciate its great significance in Indology.

**Baudhayana**

Baudhayana was the author of one of the important *kalpasutras*. Fortunately, most of his works *(Shrautasutra, Grihyasutra* and *Dharmasutra* comprising the *Kalpasutra)*[2] are extant and all the authorities place him chronologically in the earliest layer of the authors of the Kalpasutras. Some authorities consider him to be earliest, and, in any case there is a general consensus of opinion that Baudhayana, Apastamba, Ashwalayana and Sankhayana belong to the earliest layer.

Unfortunately, the book does not mention the name of the king who patronised Baudhayana. It is, therefore, not possible to fix his dynastic number and only the astronomical method is available to determine his date.

There are numerous references in his treatise about auspicious day on which the great sacrifices were to begin : however, they mostly refer to the ancient customs (ancient in Baudhayana's day). Only two rules are given which were current in his day, and, apparently, they were prescribed by Baudhayana himself :

The *first rule is* given in *Baudhayana* Sutra (=*BSS)* XXVI-29 (Caland's edition).

*"In the month of Magha, the sun on getting at the nakshatra Dhanishtha turns north, and in the month of Shravana at the middle of Ashlesha, turns to the south. These are the two limits to the sun's north-south motion."*

This rule is later than Bhisma's rule (c.1424 B.C.) because it specifically mentions Dhanishtha which was not established

1. S.B. Roy, Panini and Katyayana JAHRS, Vol. XXXIV, *in press.*
2. Caland's edition.

in Bhisma's time It would, therefore, be after 1424 B C, though near it The calculation is as follows

| | | |
|---|---|---|
| Dhanishtha=B Delphinis | = | 315 88° |
| Winter solstice (1970 A D ) | = | 270 00° |
| Hence, the precession | = | 45 88° |

Passage of time @ 72 years per degree =3303 years
The Epoch=1,333 B C

Gorakh Prasad calculated the date (JRAS, 1936, p 417) on the basis of a totally different method at 1330 B C

Apparently, Vedanga Jyotisha adopted it from Baudhayana after confirmation by Lagadha in 1270 B C The second rule is more important BSS XVIII-11 says

"Now the rule for parforming the *nakshatra-ishti* sactifice Agni wished, "I would be the partaker of food for the gods" This has been set forth in the Brahmanas (Cf Tait Brahmana iii 1 4) The full moon which occurs near the nakshatra Vishakha, has its preceding new moon in Apa Bharani in the *sakrid sambatsara this new moon is the day for starting the sacrifice* "

*Nakshatra ishti* is the festival for the astronomers *(nakshatra darshas) Sakridsamvatsara* is the perfect year (Sam=perfect, vatsara=year) i e the year which is purified by an intercalation *(sakrid*=perfect work done i e intercalated)

The instruction is to begin the sacrifice (=yearly cycle) at BHARANI *new moon In the light of Visnwamitra's rule,* it corresponds to 15 tithis before Krittika Purnima It is to be noticed that it is the tithi of the Bharani *amavasya* and the vernal equinox Instead of beginning with autumnal equinox and at Krittika, the new system begins at the vernal equinox at Bharani, because about a thousand years had elapsed since Vishwamitra's time causing a precession in seasons of about a fortnight

The epoch is computed as follows :

| | |
|---|---|
| The event : | Vernal equinox |
| Astronomical indicator : | The sun and the moon are together at Apa-Bharani. |

Long. of Apabharani=46.47°; in the base year 1970 A.D.
Vernal equinox in 1970 A.D.=0°
∴ The precession =46.47°

Time elapsed @72 years per degree=3345.84 years
The epoch of Baudhayana's observation (3346-1970)
=1376 B.C.

Taking the error of observation to be one degree or one tithi, the epoch=1376±72 B.C.

The importance of this observation is that this is clearly an independent observation inasmuch as it makes Bharani the principal star. No other astronomer did so. However, it still shows continuity of Vishwami ra's Vedic system as follows :

| | | |
|---|---|---|
| Krittika | = | 2350 B.C. Viswamitra and Dirghatama |
| Bharani | = | 1370 B.C. Baudhayana |
| Aswini | = | Siddhanta astronomy |

(Krittika, Bharani, Ashwini are the successive nakshatras).

One may now examine the validity of the general hyptothesis that the observations on equinoxes and solstices were made in India by the Vedic people in 1400—1200 B.C.

The following observations have been established (vide I.A., pp. 36-75).

| Astronomer | Circa | Event |
|---|---|---|
| 1. Bhisma | = 1424 B.C. | Solstice on 2-3 of Magha Shukla. |
| 2. Parashara | = 1420 B.C. | Beginning of the observation that the solstice took place near Shravishtha. |
| 3. Baudhayana | = 1376 B.C. | Vernal equinox on the Apabharanis amavasya. Winter solstice at Dhanishtha. |

| Astronomer | Circa | Event |
|---|---|---|
| 4 Ashwalayana | = 1326 B C | Pole star at K Draconis |
| 5 Palanjali I | = 1326 B C | K Draconis as the Pole star |
| 6 Lagadha | = 1270 B C | a) Winter solstice on Junction of Pausha Magha |
| | | b) Winter solstice at the amavasya at Vasu (=Shravishtha) |

Incidentally, this analysis shows that the suggestion that the Sutra literature belongs to the epoch 1400—1200 B C is supported by no less than six different astronomical observations The usual argument that they are all taken from some source from outside India (Whitney Keith, etc ) is obviously unjustified because there are six *different* observations *all* tending to the same epoch and, *what is indeed conclusive is the fact that no other country shows any observation which would even faintly suggest a similar date or any equivalent observation*

→ If you still believe with Whitney and Keith, that the Indian nakshatra observations of 1400—1200 B C were borrowed from some outside unknown source, you are, of course, welcome to shut your eyes to the facts You may follow the ghost of Katyayana and stick to 400—200 B C for the sutra literature and 500 B C for Baudhayana because I cannot do better

**Sutra literature** (period)

After giving the date of Baudhayana it is possible to discuss briefly about the relative and absolute dates of the *Sutrakaras* i e the authors who composed the Vedic *Kalpa* and *grihya sutras*

Max Muller laid down the dictum that
Brahmana literature = 800—600 B C
Sutra literature = 600—200 B C

This has now become an inviolable and rigid frame for the philologists, although its foundation is nothing more than a ghost story written somewhere in 1200 A D

After Pargiter declared the date of the Bharata battle to be c.950 B.C., the scheme of Max Muller was supposed to be confirmed even though Pargiter's dating is nothing more than an estimate. Pargiter's estimate is satistically defective as has been already shown.

A.B. Keith and other modern philologists have scrupulously followed the above framework. Keith went further and proposed a detailed absolute chronology in his translation of the Black Yajurveda. In the introduction thereto, he proposes the following detailed scheme :

| | (Pages) | **Asbolute** | **Relative** |
|---|---|---|---|
| Taittiriya samhita | clxxiii | 800—600 B C. | (450—250) B.Y. (Before Yaska) |
| Baudhayana | xlvi. | 500 B.C. | 150 B.Y. |
| Ashwalayana | xlvi. | 400 B.C. | 50 B.Y. |
| Sankhayana | xlvi. | 400 B.C. | 50 B.Y. |
| Yaska | xlvi. | 350 B C. | O |
| Apastamba | xlvi. | 350 B.C. | O |
| Pratish khya | lxxi | 300 B.C. | 50 A.Y. |
| PANINI | xli | 300 B.C. | 50 A.Y. |
| KATYAYANA | clxxi | 250 B C. | 100 A.Y. |

Although it is nothing more than an exercise in fixing the relative seniority of the authors and their texts, absolute dates have been given with a remarkable self-assurance even though not based on *any* material: Yet, the relative order, is of some consequence, and taking the date of Yaska (an undouted Vedic scholor) as the datum, the scale of relative dates have been shown in the second column.

It is however, interesting to note that Ashwalayana, Yaska, Sankayana and Apastamba are all declared to be contemporaries. Baudhayana is placed a century earlier but this is an opinion and based on no measurement. In our considered opinion, all that could be said was that Baudhayana was their senior contemporary.

However, the general consensus is that *they all belong to the*

lysed the matter thus —

"I shall here remark that the notion of a pole star common to the Indian and Greecian spheres celestial spheres implies considerable antiquity It cannot have been taken from our present polestar (a Ursa Minor s), which as Mon Bailly has observed (Astronomic Ancien p 511) was remote from the pole, when Eudoxus described the sphere at which time according to the quotation of Hipparchus, there was a star situated at the pole of the world (Hipparchus, Comment on Artus Lib I p 179) Bailly conjectures, as the intermediate start of the sixth magnitude were too small to be designated the pole, that K Draconis was the star meant by Eudoxus, which had been at its greatest approximation to the pole, little more than four degrees from it, *about 1326 years before Christ*

"It must have been different, between seven and eight degrees of a great circle, when Eudoxus wrote Possibly the great star in the Dragon (a Draconis) which was situated very near to the circle described by the north pole round the pole of the ecliptic, had been previously designated as the pole star It was within one degree of the north pole 2836 years before the Christ As we know that the idea could not be taken from the star near the tail of the Ursa Minoris, we are forced to choose between Bailly's conjecture or supposition of a still greater antiquity I should, therefore, be inclined to extend to the Indian sphere, his conjecture respecting that of Eudoxus".

*On the Indian and Arabian divisions of the Zodiack,* I R IX p 323, 329

It is thus clear, that Colebrooke was of the opinion that the Indian celestial sphere, was conceived around 1326 B C and following Colebrooke rather than Jacobi, because Jacobi took too high a rate for precession, this is the date we have proposed for Ashwalayana's observation It should be carefully noted that Vedanga Jyotisha observations were finally settled near this period viz, in 1270 B C

**Conclusions :**

1) The sutra literature belongs to the period (1400—1300) BC in its earliest phase, and not to (500—400) BC as the followers of Max Muller (Keith etc.) supposed.

2) The Mahabharata battle *must* have preceded the sutra period. This is the opinion of *all* the followers of Western Indology. Hence, if the proposed period of (1400—1300) BC for the sutra literature be accepted, then the date of (1424—1414) BC for the Mahabharata battle will not be unreasonable.

# VI

# The King List And the Rishi Lists : *Kali age*

**1. Preliminary**

A king list, (viz , a list of successive kings) from Manu Vaivasvata, to Pushyamitra, has been drawn up on the basis of the analysis of the Puranas made by Pargiter (pp 81 84, *infra*)

**2. Relative chronology** (Dynastic numbers)

In the list, each king has been given a serial number beginning with Manu as the number 1 The number pertaining to a particular king is called his DYNASTIC NUMBER (=D N )

The dynastic numbers can be used for the relative chronology When the date of any king, rishi, or any other personality is under discussion, the dynastic number should be given along with the name itself as follows —

Harishcandra (D N 33)
Rama Dasarathi (D N 65)
Bharata s/o Dushyanta (D N 44)
Viswamitra I (D N 32), contemporary of king Harishcandra
Viswamitra II (D N 42), contemporary of king Bharata
Viswamitra III (D N 64), contemporary of king Rama Dasarathi
Viswamitra IV (D N 68), contemporary of king Sudasa II, and so on

It is hoped that this suggestion of giving the dynastic number along with the

name of any personality in any chronological discussion, *which is entirely non-controversial,* will find universal acceptance. Its utility will be apparent from a perusal of this book itself, where this scheme has been used consistently throughout.

### 3. Date of birth and chronological systems

In this work, the chronology of a person is denoted by his DATE OF BIRTH. The date of birth is a certain event, and is not variable like the age at death. Similarly, the age of coronation is a variable uncertain factor. Neither the age at death, nor the age of coronation is susceptible of exact mathematical or statistical analysis. On the other hand, the date of birth of *successive first male child* is connected by a simple first order statistical formula, which is very suitable for chronological analysis of (and estimate in) a dynastic list. The statistical formula is

$$T = A - B \times N \text{ where,}$$

1) A is the epoch of the beginning.
2) B is the age differential i.e. the age at which the first male child is born, and
3) N is the number of kings. From D.N. 1 to D.N. 103, B= 18 years per king. From D.N. 97 to D.N. 141, B=22 years per king. For the period D N. 90 to D.N 103 so much material is available, that the dates of birth can be, and indeed have been, independently worked out.

The author is indebted to Prof. N. Kaldor of the Cambridge University for the idea, which was successfully used while estimating the average annual yield from Estate Duty, the problems involved being, at the bottom, similar.

### 4. King Lists (details of preparation)

The king lists are given in three tables (pp. 81-84). Table I gives the summary of names of the Ikshvaku and the Paurava kings from Manu Vaivasvata (D.N.I.) to Parikshit (D.N. 96). Table II gives the names of the Kaurava and the Magadha dynasties from Parikshit (D.N. 96) to Citraratha and

Suci (D N 103) Table III gives the names of the Magadha kings from Senajit (a contemporary of Adhisimakrishna (D N 100) to Pushyamitra (D N 155)

The table I ends with the Bharata battle and it has been called (for the reasons that will become clear as the study goes on) the Vedic period. The table II covers the period from the Bharata battle to Vedanga Jyotisha—the most glorious period in Indian intellectual and spiritual history, because it saw the creation of the Upanishads The third table gives the names from Adhisimakrishna (D N 100) whose reign is marked by the Naimisharanya congress of the sages, to Pushyamitra (D N 155)

The period of 600 years, from about 1,250 B C to about 650 B C (the approximate date of the beginning of the second urbanisation) may be called the dark age of Indian protohistory, because collateral evidence is not available for the period to support the Puranic history

The historic age proper begins with the advent of Buddha, while from 700 B C to 600 B C we are on the semi dark Penumbra, in which the protohistory gradually merges into history

Table I is based on the tabular analysis of the king of protohistoric India given by Pargiter at pages 144 *et seq* of his monumental work Ancient Indian Historical Tradition ( AIHT)

For the kings coming after Parikshit, we have depended mainly upon the bards (Sutas) of Magadha As Pargiter said in his second work DKA (=Dynasties of the Kali age) —

**Prophetic form of the account, Page viii**

' 10 All these accounts profess to be prophetic, yet the standpoints from which the Puranas view these genealogies differ somewhat The Vishnu professes to have been narrated by Parasara to Maitreya, and sets out the Paurava genealogy from the standpoint of the reign of Abhimanyu s son Parikshit, and

the Aiksvaku and Barhadratha genealogies from the time of the great battle between the Pandavas and Kauravas."

**Page-viii and ix**

"*The Vayu fixes the time of that sacrifice as the reign of the Puarava king Asimakrsna, who is more often called Adhisimakrsna and who was fourth in descent from Parikshit; and the Matsya and Vayu say the same in nearly the same words* when mentioning that king in this account of the Kali age. These two Puranas thus deal with these genealogies from the standpoint of his reign, *and the Brahmanda, and Garuda constructively profess to* do the same.

"11. The Matsya and Vayu carry out that view. They bring the Paurava genealogy from Abhimanyu and his son Parikshit down to Adhisimakrsna as already past, and *name Adhisimakrsna as the reigning king; the rishis then inquire about the Kali age and the Suta, declaring his intention to set out all the future kings, begins the list of future Pauravas from that monarch. Similarly, in the contemporary Aiksvaku and Barhadratha genealogies, these two Puranas name Divakara as reigning then in Ayodhya and Senajit in Magadha, and mention their predecessors as past and their successors as future. Hence they virtually declare that these three kings were contemporary.* The position taken in the Brahmanda is the same, though it is obscured by a large lacuna in which all the Paurava and Aiksvaku kings are lost, and its account begins with line 23 on page 12. Thenceforward it agrees with the Matsya and Vayu and mentions Senajit as the reigning Barhadratha king. The Bhagavata and Garuda, though professing to have been recited in Adhisimakrsna's reign, take the former, the standpoint of Parikshit's reign, and the latter that of his son Janamejaya; and both treat all the successors and also all the Aiksvaku and Barhadratha kings after the great battle as future. The Visnu agrees with Bhagavata in this attitude, as already mentioned."[1]

**Page x**

"13. *Though the account is said to have been narrated to Paurava kings or to rishis in Naimisa forest, yet the ground from which the*

1. Do they constitute contemporary evidence? Why not ?

*historic changes are viewed as Magadha The Paurava and Aiksvaku dynasties are dealt with briefly, with two kings generally to a line and with no mention of the lengths of the reigns, but the Barhadratha dynasty of Magadha is set out with one line to each king and the length of his reign is stated After those three anointed kingdoms disappeared, the dynasties treated of are those which reigned in or dominated Magadha All other dynasties in North India are noticed only in the aggregate, with the exception of the dynasty of Vidisa, and even that is described but cursorily (p 49)*

'14 The beginning of the Kali age has been discussed by Dr Fleet, and he has pointed out that it began on the *day on which Krsna died which the chronology of the Mahabharata places, as he shows, some twenty years after the great battle,* and that it was then that Yudhisthira abdicated and Parikshit began to reign *But, as shown above, these* virtually begin the Kali age dynasties immediately *after the battle and that position is the most convenient to adopt for the present purpose* "

Even so, the Magadha lists are not complete The number of kings is said to be 32, while 22 names only are given The list is admittedly incomplete to the extent of ten names

*Ita urdhvam pravakshyami Magadha ye Brihddratha*" p 14
*Pradhanyatah pravakshyami gadato me nibodhata*" p 14
' *Dvatrimshat cavrapa hi ete bhavitaro Brihadrathah* ' p 16

**Date of the Bharata War**

"4. The accession of Maha-Nanda falls in 409 B.C. (See Appendix C.) *The birth of Parikshit or the end of the Maha-Bharata war will, thus, be dated* (1015+409) *in* 1424 B.C.

**"The date supported by the Brihadratha Chronology**

5. "The interval of 1,015 years is supported by the Bruhadratha chronology. The Puranas give 1,000 years to the Bruhadrathas. But the post-Bharata Bruhadrathas are only 32, and there are about 12 pre-Maha-Bharata princes of the Bruhadratha dynasty on the extinction of the Bruhadrathas. To the credit of the post-Maha-Bharata Bruhadrathas thus there would be only (1,424-727) 697 years, against which we do get the Puranic details for almost exactly 697 years."

The king list may now be given. At this stage, however, no chronology is given, because that is the very object of this study to determine the dates properly; they have been determind, on the basis of statistical theory and astronomical observations made by the seers.

However, the dynastic numbers are given and it is hoped that in future chronological discussions the dynastic number, however tentative, will be invariably quoted; for, without the dynastic number, howsoever tentative, no meaningful discussion of chronology is possible.

The king list stands as follows :

KING LIST

(See Pargiter, AIHT, p. 144)

PART I (Kings before Parikshit : Summary)

| Dynastic number | Name |
|---|---|
| 1 | 2 |
| 1. | Manu Vaivasvata |
| 2. | Nabhanedishtha |
| 6. | Yayati |
| 7. | Puru |

| 1 | 2 |
|---|---|
| 21 | Mandhata Yauvanasva |
| 31 | Arjuna s/o Kritavirya |
| 32 | Trisanku, Viswamitra I |
| 33 | Hariscandra |
| 34 | Rohita Madhucchanda Sunahsepa |
| 41 | Sagara, Dirghatamas, Kapila |
| 42 | Viswamitra II |
| 43 | Dushyanta |
| 44 | BHARATA |
| 49 | Garga |
| 50 | Gargya |
| 63 | Divodasa Shambara |
| 65 | Rama Dasarathi, Viswamitra III |
| 68 | Sudasa II, Viswamitra IV |
| 83 | Hiranyanabha, Vagambhrini |
| 85 | Shruta s/o Suvarcas |
| 90 | Santanu |
| 91 | Bhisma |
| 92 | Vicitravirya Vyasa |
| 93 | Dhritarastra |
| 94 | Yudhisthira, Krishna, Yajnavalkya |
| 95 | Abhimanyu |
| 96 | Parikshit |

## PART II (KALI AGE)

| 1 | Kaurava Dynasty 2 | Magadha Dynasty 3 |
|---|---|---|
| 96 | Parikshit | Shrutashrava |
| 97 | Janamejaya | Ayutayu |
| 98 | Shatanika | Niramitra |
| 99 | Asvamedhadatta | Brihatkarma |
| 100 | Adhisimakrishna | Senajit |
| 101 | Nicakshu | Sutanjaya |
| 102 | Usna | Vipra or Vibhu |
| 103 | Citraratha | Suci |

## PART III

## MAGADHA KINGS OF THE KALI AGE

| 1 | 2 | 1 | 2 |
|---|---|---|---|
| 100. | Senajit | 113 | Satyajit |
| 101. | Shrutanjaya | 114 | Visvajit |
| 102. | Bibhu (Vipra) | 115 | Ripunjaya |
| 103. | Suci | 116. | ...... .. |
| 104. | Ksema | 117. | ......... |
| 105. | Suvrata | 118. | ......... |
| 106. | Sunetra | 119. | ......... |
| 107. | Nivritti | 120. | ......... |
| 108. | Trinetra | 121. | ......... |
| 109. | Dridasena | 122. | ......... |
| 110. | Mahinetra | 123. | ......... |
| 111. | Sucala | 124. | ......... |
| 112. | Sunetra | 125. | ......... |

### PRADYOTAS

| | | | |
|---|---|---|---|
| 126. | Pradyota | 129. | Ajaka (Janaka) |
| 127. | Palika | 130. | Nandivardhana |
| 128. | Vishakhayupa | | |

### NAGAS

| | | | |
|---|---|---|---|
| 131. | Shishunaga | 136. | Ajatashatru |
| 132. | Kakavarma | 137. | Darshaka |
| 133. | Ksemadharman | 138. | Udayin |
| 134. | Kshatraujas | 139. | Nandivardhana |
| 135. | Bimbisara, Buddha | 140. | Mahanandin |

### NANDAS

| | | | |
|---|---|---|---|
| 141. | Mahapadma | 142. | Sukalpa |

## MAURYAS

| | | | |
|---|---|---|---|
| 143 | Chandragupta | 149 | Dasaratha |
| 144 | Vindusara | 150 | Samprati |
| 145 | Ashoka | 151 | Salisuka |
| 146 | Kunala | 152 | Devadharman |
| 147 | Bandhupalita | 153 | Satadhanvan |
| 148 | Dasona | 154 | Brihadratha |

## SUNGAS

| | | | |
|---|---|---|---|
| 155 | Pushyamitra | 156 | Agnimitra |

**NOTE I Megasthenes and the king list**

As the modern Indologists, consider the evidence of the Greeks to be of great weight, we next turn to them

Magasthenes who came to India in 302 B C, says (quoted by Arrian Pliny, etc )

FRAGM L C

Plin *Hist Nat* VI xxi 4 5

**Of the Ancient History of the Indians**

" For the Indians stand almost alone among the nations in never having migrated from their own country From the days of Father Bacchus to Alexander the Great, their kings are reckoned at 154, whose reign extend over 6451 years and 3 months

Solin 52 5

Father Bacchus was the first who invaded India, and was the first of all who triumphed over the vanquished Indians From him to Alexander, the Great, 6451 years are reckoned with 3 months additional the calculation being made by counting the kings who reigned in the intermediate period, to the number of 153 "

(vide McCrindle's *Ancient India* p 115)

The Greeks had a very bad habit of giving the names of their own gods—Bacchus, Dionysus, Heraklitos—for the Indian

names. Assuming father Bacchus to be the first king, the dynastic number of Alexander is 154. As Alexander was isochronous with(i.e. equal contemporary of Candragupta(=Gr. *Sandrakotus*), the dynastic number of Candragupta, according to the Greeks, is 154, while according to the proposed king list, it is 143. Thus, there is a difference of eleven kings only (=about 220 years), in a list of 150 names i.e. about 3000 years. Is not the difference well within the margin of tolerance, and, therefore, negligible ?

Actually, the concordance is closer. It is certain that while we have started from Manu Vaivasvata, the historic figure, Megasthenes started with Brahma : Megasthenes must have included Daksha, the mythical son of Brahma, the six Manus and Vivaswana—the legendary kings—who preceeded Vaivasvata Manu and whose names are all mentioned at the beginning of the Puranas in his count of the kings. Excluding these eight names, the difference in dynastic numbers comes to THREE only.

What is important to see is, therefore, the substantial concordance between our number 143 (based on the Puranas) and the number of 154 given by Megasthenes. This shows satisfactorily that even at the time of Megasthenes (i.e. 300 B C.) there was a Purana and its king list contained 153 names before Candragupta. The Puranic king lists are, therefore, at least as old as Megasthenes. Can they be summarily brushed aside ? The conclusion is that the *number of kings given in the list is reliable* though the age given is legendary.

NOTE 2 : **Rajatarangini and the dynastic numbers**

Support for the general validity of the *number* of kings in the proposed king list and the dynastic numbers comes from an entirely unexpected quarter viz. from Kalhana's Rajatarangini. It is all the more surprising because, to all appearances, Kalhana's chronology (Yudhisthira=2,448 B.C.) is opposed to the proposed chronology (Yudhisthira=1,424 B.C ).

Kalhana composed the Rajatarangini in about 1,148-49 A.D. He says that between Gonarda I and Ashoka, there

were 46 kings (35 unknown kings and II known kings) In other words Ashoka was the 47th king from Gonarda I He further asserts that Gonarda I was a contemporary of Yudhishthira while his grandson Gonarda II was a mere child at the time of the Bharata battle These facts, were apparently collected from an *upapurana* called the Nilanata Purana

Ashoka s dynastic number is 145 Hence the dynastic number of Gonarda I will be 98(145—47) Yudhisthira's dynastic number being 94, there is a difference of four only It is, therefore well within the range of probability that Yudhisthira and Gonarda I were contemporaries

This, of course does not prove that Yudhisthira lived in 2,448 B C, as further supposed by Kalhana Absolute dating is something altogether different from relative chronology determined by a king list and the dynastic numbers Dynastic numbers merely give relative time distances—they do not give absolute dates For absolute dating some *independent* material is necessary Astronomical events supply some of the best materials

However, if the date of a king in a dynastic list is known for certain then it helps to find the date of another We can test the probability of any date with dynastic numbers For instance, Kalhana follows Varaha, and says that Yudhisthira's date was 2 448 B C This is an impossible date, because then the age differential would come to 46 3 years per king—an obvious biological impossibility We shall later trace the source of Varaha's error However, Kalhana's determination is not an independent testimony—it merely follows Varaha

Be that as it may this analysis shows the imperative need of giving some dynastic number for any meaningful discussion in chronology

To sum up *The names and the number of kings in the king list are quite reliable, but the dates and periods have to be independently worked out statistically*

## Rishi List

Another source viz, the teacher's list *vidya-vamsa* of the Shatapatha Brahmana, will now be examined. This is an independent piece of evidence and was composed independently of the Puranas by Brahmanas themselves. We have carefully compared the two lists—the king lists of the Puranas and the teacher's list of the Brahmanas and it appears that the Brahmanas support the Puranic king list fairly closely.

We shall now consider the vidya-vamsa of the Shatapatha Brahmana (Madhyandini recension) and its variant given in the Brihadaranyaka Upanishad (Kanva recension).

## 2. The Vidya Vamsa of the Shatapatha Brahmana

The chronological importance of this list can hardly be overestimated, and it is not clear why they were not appreciated earlier. Max Mueller himself says (p 229, HASL) :—

"........In Shatapatha-brahmana these lists are repeated at the end of various sections. There seems to be no imaginable object in inventing these long lists, as in the eyes of the Brahmanas they would have been much too short for the extravagant antiquity assigned to their sacred books. With the exception in the highest links in each chain of teachers, *the lists have an appearence of authenticity rarely to be met with in Indian compositions...*"

The chronological importance of the list would be apparent from the portion italicised above. The lists are genuine and authentic and hence, chronologically significant.

"In the Shatapatha-bramana we find four vansas The most important of them stands at the end of the whole work, and consists of fiftyfive names; the last of the human teachers being again Kashyapa who here is supposed to have received his revelation from Vach, the goddess of speech. She received it through Ambhini from Aditya, the sun. Among the successors of Kashyapa we mark the tenth, Yajnavalkya, the pupil of Uddalaka and the teacher of Asuri; and the fifteenth, Sanjiviputra; Sanjiviputra seems to have united two lines of

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teachers, he was the pupil of Karshakeyi putra and, according to the vansa of the tenth book, he was likewise the pupil of Mandukayani

" There are two other *vansas*, one at the end of the *Madhukanda*, the other at the end of the Yajnavalkya *kanda* Both are in reality, varieties of one and the same vansa, their differences arising from the confusion caused by the recurrence of similar names "

The two lists of teachers upto Sanjiviputra, teaching dynasties if you so like to call them, are given below side by side for comparison

| Dynastic number | Year of birth (B C ) | First list Aditya sampradaya | Second list Brahma sampradaya |
|---|---|---|---|
| 81 | 1,706 | Aditya | |
| 82 | 1,688 | Ambhini | |
| 83 | 1,670 | Vak (1) | |
| 84 | 1,652 | Kashyapa Naidhrubi | |
| 85 | 1,634 | Shilpa Kashyapa | |
| 86 | 1,616 | Harita Kashyapa | Brahma |
| 87 | 1,598 | Asita Varshagana | Prajapati (a) |
| 88 | 1 580 | Vidhyoga | Tura Kavasheya |
| 89 | 1,562 | Vajashravasa (2) | Yajnavaca |
| 90 | 1,544 | Kushri (Naciketa?)(3) | Kushri (b) |
| 91 | 1,526 | Upaveshi | Vatsya |
| 92 | 1,508 | Aruna | Shandilya (c) |
| 93 | 1,490 | Uddalaka (4) | Vama kakshayana |
| 94 | 1 472 | Yajnavalkya (5) | Mahitthi |
| 95 | 1,454 | Asuri (6) | Kautsa (d) |
| 96 | 1,436 | Asurayana Yaska (7) | Mandavya |
| 97 | 1,418 | Prashniputra | |
| | | Asurivasin (8) | Mandukayani |
| 98 | 1,400 | Karshkeyi putra | |
| 99 | 1,382 | Sanjivi-putra | Sanjivi putra |

*The first list gives the Aditya sampradaya* and is the basic list.

Its chronology[1] is fixed as under :

Vagambhrini declared her Devisukta (R.V X-125) *on* Magha Shukla Pancami, and was immediately deified as the goddess Vagdevi, and she is worshipped to this day on Magha Shukla Pancami. This was the day of Uttarayana in her time and the epoch can be computed to *1630 B C.* (*vide* *Ancient* India, p. 118). This grand sermon was delivered to king Shruta of Videha (D.N. 85 : b. 1655 B.C.). With this synchronisation, Vagambhrini's dynastic number is taken at 83 and her date of birth at 1670 B.C. Incidentally, the date of birth of Yajnavalkya who appeared after eleven (teaching) successions *comes to* 1472 B C. @ 18 *years per succession* (*i e. same as in* say, the Shankara sampradaya of today). This is of the right order because the Bharata battle took place in 1424 B.C. *All the known facts are thus dovetailed and fits satisfactorily with this chronology.*

There are two lists given above. The first list gives the Aditya sampradaya (the sun school) and the second list gives the Brahma sampradaya, (the sky school)—the two departments of the Videha University which laid stress on the Sun and the Sky respectively as the symbol of the Ultimate Brahman. (For a poetic representation of the *weltanschauung* taught (and lived !) in the university, please see Katyayani, a mystic drama, by Shashanka Bhushan, Delhi 1972).

The teachers of both the departments are found among the rishis of the Ninth and the Tenth mandalas of the Rigveda and their hymns are among the late hymns of the Rigveda.

The chronologically important teachers are now separately considered :

*(Aditya sampradaya)*

1. Vagambhrini (=Vak, the daughter of Ambrini) was the rishika of the celebrated Devisukta (R.V. X-125)—one of the most important hymns of the Rigveda. She founded the Aditya

1. The age differential for the VIDYAVAMSA is taken at 18 years per succession, In the Shankara sampradaya also the age differential is found to be about 18 years per teacher (Sankara=about 675 A.D., present GURU—69th: Date= 1970)

Sampradaya—which blossomed to become the most important school of antiquity It was basically a girl s school where co education was followed It was the centre of advanced learning and reached its height at the time of Janaka Kritikshana when it had amongst its luminaries such names as Uma Haimavati Gargi Maitreyi Katyayani, Sulabha, Maitreyi, as well as Yajnavalkya Naciketa, Asuri, Yaska, Pancashikha, among others

2 Vajashravas is taken to be the father of Kumar Naciketa

3 Naciketa was the Kumara the disciple of Yama (Yamayama), mentioned in the mystic hymn R V X 135 His journey to the land of Yama (Yaman) took place perhaps in c 1528 B C, when he was 16 years of age i e, an adolescent—a Kumara—who does not know but is eager to know (Na ciketa) His son Naciketa was present in the court hall and *rajasuya* ceremony of Yudhishthira (c 1440 B C)

4 Uddalaka Aruneya figures both in the Chandogya as well as in the Brihadaranyaka Upanishads He is also mentioned in the Mahabharata and the Puranas as the one who enforced strict monogamy

5 Yajnavalkya was the titan of the Upanishads Friend, philosopher and guide of king Janaka, he defeated all comers in the celebrated Janaka conference (1410 1400) B C —perhaps the most important philosophical conference of antiquity He was present in the *rajasuya* conference of Yudhisthira as a junior priest

Originally, he was a pupil of Vaisampayana but he revolted and went away to join the catholic Aditya sampradaya of Videha He had two wives—*Striprajna* Katyayani (*Logos in* human form) and Brahmavadini Maitreyi, and both helped him to attain the status of the greatest sage of the period

6 Asuri became the exponent of the *muni yoga dhara* preached by Pancashikha

7 Yaska was the celebrated author of the Nighantu and the Nirukta Lehman in his critical edition of the Brihaddevata

says that Yaska was anterior to Shaunaka—which is borne out by the present chronology. And, finally;

8. *Prashniputra Asurivasin.* Obviously a foreigner, his name suggests that he was perhaps a resident of Syria (or not improbably, of some other Asura country like Assyria, Mitanni or Egypt). It is of paramount importance to note that *he was isochronous with queen Theyi of the XVIIIth dynasty of Egypt.*

The famous celebrities of the other department will now be considered :

*Brahma sampradaya*

(a) Prajapati might be the author of the Nasadiya Sukta—R.V. 129—the most celebrated hymn of the Rigveda. If this identification is accepted, then the date of the hymn would be about 1,550 B.C. That would confirm the general opinion that this philosophic hymn is a late product of the Rigveda—belonging almost to its end phase.

(b) Kushri, appearing in both the lists, supports each of them.

(c) Shandilya, is the authority of the Madhukanda, just as Yajnavalkya is the authority of the Yajnavalkya kanda. He is the master who propounded the famous Mahavakya "SARVAM KHALU IDAM BRAHMA" (Ch. Up.) It shows that there was no exclusiveness among different schools. The master of one school could equally be an authority of the other. This is also true of Uddalaka and Aruna, who essentially belonged to the Pancala school, but are mentioned in the Aditya sampradaya also. Mention in both the schools signifies greatness.

(d) Kautsa is the author of the famous theory that the Vedic mantras are '*anarthaka*'. This also shows that by 1,450 B.C., the inner meanings of the Veda were forgotten. Kautsa was a senior to Yaska, and the fact that Yaska has specifically mentioned him (Nir.), tends to justify our relative chronology and synchronism.

We shall now consider the teachers who came after Sanjiviputra.

In considering the full list, we are faced with the usual problem of variations and variant readings It is fortunate that Max Mueller's list is the longest [1] As Mueller is known to have been meticulous in preparing his lists, it shall be taken as the master list, and slight adjustments made therein as discussed specifically

The variations in two lists are due to the fact that Mueller follows the Madhyandina shakha of the Shatapatha while the Upanishad gives the Kanva shakha

The differences in the teachers preceding Atreyi putra are marginal and can be easily reconciled because there they are in the nature of variants We therefore, concentrate on the names coming thereafter

The two lists are

| **Mueller** (Madhyandina) | **Upanishads** (Kanva) |
|---|---|
| Atreyi putra | Atreyi putra |
| Gautami p | Kapi p |
| Vaishagami p | Banyaghrapadi p |
| Shalankayani p | Kaushiki p |
| Baudhi p | Katyayani p |
| Kautsi p | Parashari p |
| Kashyapi p | Aupaswasti p |
| Shaunaki p | (b) Bharadwaji p |
| Lungi p | Gautami p |
| Bharadwaji-p | Katyayani p |
| Harikarni p | Pautimashi p |
| Maushiki p | |
| Vadevi p | |
| Gargi p | |
| Parashari p & Kaundini p | |
| →Gargi p | |
| Parashari p | |
| Vatsi p | |
| (b) Bharadwaji-p | |

The repetition of Gargiputra and Parashariputra in the end is evidently the duplication caused when the names on the aksha-sutras, are transcribed into written script. All the written sutras end with a duplication whose purpose is not apparent. With *akshasutras* they are necessary in the *krama-patha* : They are necessary to mark the closure and are automatically pronounced. We may safely omit this duplication here.

Omitting these duplications, the end portions synchronize and read as under :—

| **Mueller** (Madhyandina) | **Upanishads** (Kanva) |
|---|---|
| Parashari-p. | Parashari-p. |
| Vatsimandavi-p. | Aupaswasti-p. |
| Bharadwaji-p. | Bharadwaji-p. |
| Closed here | Gautami-p. |
| | Katyayani-p. |
| | Pautimashi-p. |

The reason why Gautamiputra is not accepted in both the shakhas is extremely interesting and will be discussed separately.

We may now draw up the final list of the teachers. This list is drawn up on the basis of the list of Mueller (Madhyandina) corrected and synchronised by the Aupanishadic lists. In order to make its full impact clear, we shall give the names of contempoiary kings with their dynastic numbers.

The list comes out as overleaf :

| Dynastic number | Year of birth | Muller (Madhyandina) | Upanishad (Kanva) | King | Dynastic number |
|---|---|---|---|---|---|
| 81. | ... | Aditya | Aditya | .. | 81 |
| 82. | 1,688 | Ambhini | Ambhini | .. | 82 |
| 83. | 1,670 | Vak | Vak | Hiranyanabha | 83 |
| 84. | 1,652 | Kashyapa | Kashyapa | Pusya | 84 |
| 85. | 1,634 | Shilpa Kashyapa | Shilpa Kashyapa | Dhrubasandhi | 85 |
| 86 | 1,616 | Harita Kashyapa | Harita | Sudarshana | 86 |
| 87. | 1,598 | Asita Varshagana | Asita | Pratipa | 87 |
| 88. | 1,580 | Badhyoga | Badhyoga | | 88 |
| 89. | 1,562 | Vajashravas | Vajashravas | Ristisena | 89 |
| 90. | 1,544 | Kushri (Naciketa ?) | Kushri | Santanu | 90 |
| 91 | 1,526 | Upaveshi | Upaveshi | Bhisma | 91 |
| 92. | 1,508 | Aruna | Aruna | Vicitravirya | 92 |
| 93 | 1,490 | Uddalaka | Uddalaka | | 93 |
| 94. | 1,472 | Yajnavalkya | Yajnavalkya | Yudhishthira | 94 |
| 95 | 1,454 | Asuri | Asuri | Abhimanyu | 95 |
| 96 | 1,436 | Asurayana<br>Yaska | Asurayana<br>Yaska | Parikshit<br>(b 1,424 B C ) | 96 |
| 97. | 1,418 | Prashniputra<br>Asurivasin | Prashniputra<br>Asurivasin | Janamejaya | 97 |
| 98. | | Karshkeyiputra | Sanjivi-putra | Shatanika | 98 |

| | |
|---|---|
| 99. | Sanjivi-p. |
| 100. | Pracinyogi-p. |
| 101. | Bhaluki-p. |
| 102. | Vaidarbhriti-p. |
| 103. | Kraunciki-p. |
| 104. | Rathitari-p. |
| 105. | Shandili-p. |
| 106. | Manduki-p. |
| 107. | Mandukayani |
| 108. | Jayanti-p. |
| 109. | Alambayani |
| 110. | Alambi-p. |
| 111. | Sankriti-p. |
| 112. | Shaungi-p. |
| 113. | Artabhagi-p. |
| 114. | Varkaruni-p. |
| 115. | Parashari-p. |
| 116. | Bharadwaji-p. |
| 117. | Vatsi-p. |
| 118. | Gautami-p. |
| 119. | Atreyi-p. |

| | | |
|---|---|---|
| Pracinyogi-putra | Ashwamedhadatta | 99 |
| Karshkeyi-p. | Adhisimakrishna | 100 |
| Vaidarbhriti-p. | Nicakshu | 101 |
| Krauncaki-p. | Usna, Bibhu | 102 |
| Bhaluki-p. | Citraratha, Suci | 103 |
| Rathitari-p. | Kshema | 104 |
| Shandili-p. | Subrata | 105 |
| Manduki-p. | Sunetra | 106 |
| Mandukayani-p. | Nivritti | 107 |
| Jayanti-p. | Trinetra | 108 |
| Alambi-p. | Dridhasena | 109 |
| Alambayani-p. | Sumati | 110 |
| Sankriti-p. | Sucala | 111 |
| Shaungi-p. | Sunetra | 112 |
| Artabhagi-p. | Satyajit | 113 |
| Varkaruni-p. | Viswajit | 114 |
| Parashari-p. | Ripunjaya | 115 |
| Vatsi-p. | ...(1) | 116 |
| Bharadwaji-p. | ...(2) | 117 |
| Gautami-p. | ...(3) | 118 |
| Atreyi-p. | ...(4) | 119 |

astronomical because Vagambhrini's date was astronomically determined The Puranic list depends basically upon the Puranic tradition that 1015 years elapsed between the birth of Parikshit and the accession of king Nanda

It should also be appreciated that we have covered 53 generations (from D N 83 to D N 135) and the results tally within half a step This, of course, does not conclusively prove anything, but strongly supports the general correctness of the two lists In fact, the two independent lists mutually support each other, and therein lies the importance of the present analysis A statistician, would agree that the concordance is satisfactory because even a difference of five steps (about a hundred years) would have been well within the margin of tolerance

Neither the theory of dynastic numbers nor the theory of radiocarbon decay, provide a high resolving power technique of chronology They both depend upon the theory of probability The high resolution and fine calibration necessary for absolute dating is derived only from astronomy It is for this reason that we consider astronomical technique as the best, and have tried to check our chronometry, wherever possible, by astronomical data

The present analysis throws some light on another obscure problem in Indian chronology, viz, whether there was a gap of ten kings in the Magadha king list (vide p 83) We have now two lists one from the Madhyandina shakha and the other from the Kanva shakha, both of the Shatapatha Brahamana—the longer list culled by Mueller containing at least NINE names more than the shorter list of Kanva shakha The longer list undoubtedly supports the hypothesis of ten missing kings This is so because now it is no longer a hypothesis, but a fact The individual names of the ten rishis are known, and, it could be justifiably assumed that they correspond to the ten missing kings Unfortunately again, we do not get any conclusive proof, however, the data undoubtedly support the theory of ten missing kings

While on this topic, we may point out that our proposed

There is a close parallelism between the king list and the rishi lists (i.e. between the *yoniyamsa* and the *vidyayamas*).

The most surprising thing that comes out is the synchronism between Gautami-putra of the Upanishads and Siddhartha. It is well known that the name of Buddha's mother (foster mother and stepmother) was Mahaprajapati Gautami. If Buddha had been a pupil of the school of Aditya sampradaya, his name would necessarily have been GAUTAMI-PUTRA. The analysis, therefore, strongly suggests that Buddha was a student of the Aditya sampradaya and his school name was Gautami-putra.[1]

The difference is even less than one step, because Yaska is taken as D.N. 96 and his date of birth independently worked out is 1,436 B.C. while 96 Parikshit's date of birth is 1,424 B.C. It would be more appropriate to describe Yaska's dynastic number as 95 1/2 : If so, Gautami-putra's dynastic number would be 135 1/2 as against Siddhartha's number of 135.

Lest a lay reader is unduly impressed by this concordance in dynastic numbers, and begins to think that we have *proved* that Gautami-putra was Buddha, a word of caution in necessary. All that the present analysis has done, is to show that this *identification is highly probable. Further work is* necessary, and we shall undertake it separately. Anticipating the results, however we may point out that further study only tends to strengthen this hypothesis.

The importance of the present study lies in this viz., that it supports the general correctness of both the king list as well as the rishi lists. It should be remembered that they are independent. One is drawn from the Brahmanas and the Upanishads whose accuracy is almost guaranteed; while the other is drawn from the Puranas, where also precautions were taken against bias and inaccuracies. The dating of the rishi list is basicaly

1. The reason for taking the age differential @ 18 years per king before king Suci and @ 22 years per king after Suci will be explained in due course. The two-parameter formula is controlled by an overall 19 year formula and is determined by astronomy and the theory of compound probability.

# VII Maha-bharata : its creators

## 1. Mahabharata

Vyasa was the son of Parashara, a *rishi*, and Satyavati, a non-aryan princess The earliest mention about Vyasa is found in the *Taittiriya Aranyaka*—a pitch accented *shruti* text and, therefore, of undoubted antiquity, going to a date prior to the Kurukshetra battle In Tait Aran 1 9, Vyasa, is cited as an authority by the name of *Vyasa Parasharya* i e as Vyasa, the son of Parashara Hence, the historicity of Vyasa and his undoubted authority is established by contemporaneous evidence of the Taittiriya Aranyaka, a *shruti*

In what follows, the Kurukshetra battle is taken as the datum line and dates are indicated as follows

B K =years *before* the Kurukshetra battle

A K =years *after* the Kurukshetra battle

Those who would like to read A K. as "After Kali", should remember that, strictly speaking, it is the Yudhisthira Kali Hence A.K would mean after 'Yudhisthira-Kali' as well as, after the 'Kurukshetra battle'—both being of equivalent connotation

It is well known that the ancient Mahabharata—the Mahabharata before interpolations—consisted of THREE layers The hypothesis was first propounded by Weber, it is supported by Mahabharata itself and is generally accepted by all the scholars—the only difference

identification of Buddha with Gautami-putra holds good on either basis. If one takes the longer list from *both* the sources, then Buddha synchronises with Gautami-putra. If one takes the shorter lists from *both* the sources, then also they synchronise. This is so because a similar number of missing names (ten in one, compared to nine in the other) appear in these lists and the principle of Evidence Act requires the THE LIKE SHOULD BE COMPARED TO THE LIKE.

It would be observed that a linkage has perhaps been established between Buddha and Yajnavalkya because the names of all the teachers—the teaching succession *(vidya vamsa)*—between Yajnavalka and Buddha has been recovered. The veil of darkness which prevailed over the period of 800 years between the Bharata battle (1,424 B.C.) and the Buddha (566 B.C.) has been lifted partially and we get a vision of the age—however dim.

All Smriti, Sutra, Vedanga and Itihasa-purana texts including the Mahabharata were 'open' texts i e they were expected to be kept up to date by making necessary and authorised additions These authorised additions—a characteristic of the Vyasian texts—were *not* interpolations This must have continued till writing was introduced on a wide scale, say in 300 B C

However, it is true that 'interpolation' i e unauthorised additions, was also possible, say upto 300 B C *Whenever any important chronological deduction is to be made, the worker should ensure that the shloka or saying is not an unauthorised interpolation made during the millenium (1300 300)* B C, otherwise, they would not be contemporary evidence but merely tradition It should of course, be remembered that tradition cannot be altogether ignored or brushed aside The Mahabharata as we know it today, took its present shape by say, 300 B C when writing was introduced and the oral text were fossilized It purports to be pre-Budhistic, and no notice is taken of Buddha or his new Philosophy Buddha called it *itihasa pancamasam*

The following scheme is suggested for indicating the chronology of a book belonging to the protohistorical period i e prior to Buddha

Mahabharata [3 A K ] [34 A K , 108 A K ] (108 A K -1100 A K )

This means that the original kernel was composed by Vyasa in 3 A K Authorised versions were made by the preceptors of the school in 34 A K and 108 A K Additions and interpolations were made for 1000 years, till say 1100 A K as shown below in a tabular form

**Mahabharata (Tradition)**

| Text | Speakers | Number | Period | Occasion | Place |
|---|---|---|---|---|---|
| Jaya | Vyasa to Ganesha | 8 800 | 3 A K | | Kurukshetra(?) |
| Bharata | Vaisampayana to Janamejaya | 24,000 | 34 A K | Sarpasatra | Takshasila |
| Mahabharata | Ugrashrava to Shaunaka | 100 000 | 108 A K | Conference of sages | Naimisharanya |
| Authorised additions as well as interpolations | | | upto 1100 A K | | |

among them being about the exact number of shlokas in each recension. The Indian tradition contained in the Mahabharata itself is as follows :

The first recension was by Vyasa and was, according to the Mahabharata itself, dictated by Vyasa to Ganesha, a swift scribe. Weber thinks that it was made up of 8800 recondite shlokas later known as the *Vyasakutas* and they must have been composed within Vyasa's life time say, within three years of the Kurukshetra battle (3 A.K.). It was known as the *JAYA*—a tale of victory.

The second recension was recited by Vaisampayana in the *Sarpa- atra* which was the victory celebration of the Pandavas by Janamejaya, the grandson of Yudhisthira, held at Takshasila over the sack of the Takshaka i.e. the western Nagas;[1] its date can be safely estimated at *c.34* A.K. (i.e. *34* years *after* the Kurukshetra battle). It was an authorised text because it was narrated in the presence of (or, what is more probable, with the posthumous approral of) Vyasadeva, the original author, and was known as the *Bharata samhita* : It was said to be made up of 24,000 shlokas.

The third recension was recited by Ugrashrava Sauti, who learnt it from his father Romaharshana, the Suta. Romaharshana was instructed by Vyasa himself and heard the Bharata samhita being recited by Vaisampayana. This recension was known as the '*Mahabharata*' and was said to be made up of 100,000 shlokas. It was recited by Ugrashrava, at the Naimisharanya conference of sages which was presided over by Shaunaka, the scholiast and author of several Vedic texts. The conference was held in *c.*108 A.K.

The Mahabharata and the Bharata are both mentioned by Ashwalayana in his Grihyasutra which was composed at about this time (108 A.K. : see Max Muoller, HASL, p. 22). Panini also mentions both these texts. The two later recensions were oral i e. memory texts.

1. For details about Takkas or Takshaka Nagas, see Arch. Survey Report Vol. XXII, Garrick also thinks that Kurukshetra battle was fought in 1424 B.C.

nothing inherently improbable, and that the traditional life history of Vyasa is entirely natural and self consistent except on one point viz whether he was physically present in the *sarpa satra* Briefly his life span is covered as follows

| *Event* | *Age* | *Time* | *Remark* |
|---|---|---|---|
| Birth | 0 | 84 B K | |
| Redaction of Vedas | 20—40 | (64—44 B K) | (After about 200 years of preparation since Hiranyanabha's time i e from 260 B K) |
| Redaction of Brahmanas (esp Taittiriya) | 40—65 | (44—23 B K) | |
| Composition of the Upanishads of his School (i e Taittiriya) | 65—100 | 20 B K to 15 A K | |
| Purana | 65—100 | 20 B K —(?) A K | |
| Mimansas | 85—100 | 0 B K —15 A K | |
| Jaya | 94 | 3 A K | |
| Sarpasatra | 120 (?) | 34 A K | (?) |

Thus the only unlikely (but not impossible) event is Vyasa's presence at the sarpasatra, for, he would then be 118 years of age

## 2. Vyasa

Vyasadeva represents the grand personality of the intellectual world of the Epic-Upanishadic age. Colebrooke accepted the Indian tradition, and briefly recorded the history of Vyasa's times in his masterly "Sacred writings of the Hindus" [Misc. Essays, Vol. I] Whitney summarily rejected Colebrooke's immaculate analysis and laid down the fiat.

"*Veda* : The legend here referred to is now fully recognised as valueless and the name Vyasa as signifying nothing but the personification of the whole period and work of collecting and arranging the sacred writings, which are of very different age and origin."

This is Whitney's *ipse dixit*, because he cites no authority whatever for the statement 'is now fully recognised"—fully recognised by whom ? Similarly, no amplification is made of the phrase 'which are of very different age and origin". Actually this was merely an effort by a philologist to remove all fetters *on time analysis so that a philologist is left free to impose his own subjective fancy on Indian chronology in the* name of literary style : A philologist is scared of any scientific restraint on his chronological fancy : hence, Whitney was perturbed when Colebrooke suggested, in this very article that the evidence of astronomy be taken into consideration. It is very humbly, yet very firmly, suggested that the Indologists made a great mistake in ignoring Colebrooke's work—which represents painstaking collection of materials, panoramic command of a vast subject, deep erudition, immaculate presentation and, above all, a *strictly scientific objectivity*. It was an unfortunate day for Indology when Colebrooke was buried on the shelves of 'old' classics and Whitney chosen as the standard bearer in his place. *Lest I be mistaken, Whitney has always shown profound respect for Colebrooke : his criticisms are never personal : but scholastic disputes—even though strongly worded. Whitney was great, but Colebrooke was greater.*

The first thing to ensure in chronology is internal consistency and, then, to confirm it, if possible, by external consistence i.e. by cross contacts. It will be shown that there is

B.C.—but how can one brush aside their synchronisms and relative chronology? Relative chronology is something quite different from absolute chronology and may be quite correct even though the absolute dating be totally wrong and fantastic. The synchronisms proposed by Colebrooke, are substantially confirmed by Pargiter and Bhagavatadatta and are all based on ample materials. Why should they be rejected as myth and legend—merely on the *ipse dixit* of Whitney?

While on this subject, one must realise that the texts initiated by Vyasa are all 'open' texts i.e. they were expected to be kept uptodate—and, hence, the objection 'of very different age and origin' misses the very nature of the texts.

**To Sum Up**

(1) The original Mahabharata consists of THREE layers—

(1) Jaya (by Vyasa himself and Ganesha c 3 A.K.)

(2) Bharata samhita (Vaisampayana c 34 A.K.) and

(3) Mahabharata (Ugrasarva c 108 A.K.)

(2) The capacity of Vyasa the encyclopaedist as an organizer was wonderful—but neither unbelieveable nor superhuman.

(3) The supreme task of the Indologists is to stratify these three layers—a task more important than the stratification of all the broken potsherds strewn all over India.

There being no inherent improbability about Colebrooke's analysis, it should be accepted and further research carried on to work out the details. The relative chronology proposed here (in terms of B.K. and A.K. as explained) should in our considered opinion be called the Colebrooke Relative Chronology in honour of that great Indologist.

And finally, whenever I have used a Mahabharata shloka, I have taken care to ensure that it belongs to the earliest stratum (i.e. upto 108 A.K. or 1316 B.C.)

gift of accepting all knowledge (instead of quarelling and contradicting) was it his fault ? If he had a grand all-encompassing vision which saw *Mahabharatee* was it his fault ? If, for instance, he asked Jaimini to initiate a summary of the *Dharman* as given in the *Brahmanas*, and Vedarayana to give a similar summary of the *Brahman* as given in the *Upanishads*—and, if as a result, the Purvamimansa and the Uttara-mimansa took their initial shapes thus initiating the six darshanas—was it Vyasa's fault ? If Vyasa was greater as an encyclopaedist than Aristotle—then, is there a law against it ?

What is inherently improbable about the life of Vyasa or about the work done under his guidance by his school, in a life of a hundred years ? If you do not believe that he lived up to 120 years to attend the *sarpa-satra*—then, take it that he was not physically present there. His devoted disciples and favourite student Vaisampayana felt that the spirit of his *Guru* was present to bless his effort but how does the entire life and brilliant organisation of the great encyclopaedist become a myth merely because of a single event which though improbable is nevertheless not impossible ? Why not say that Panini is a myth, because it is impossible for a man to chain an entire language ?

As to Vyasa as the great epic poet of *Jaya*, please read the *Sauptika-parva* (where only the five brothers and Krishna are left to taste the sweet fruits of victory) and the lament of Gandhari in the *Stri-vilapa parva* where even God is afraid to face the bereaved queen—the noblest flower of Aryan womanhood. Could *any* poet in *any* language reach that height ? If you want to see the epic grandeur narrate the folly of human wisdom—it is here.

**Colebrooke's relative chronology :**

Finally, Colebrooke's analysis of the synchromisms and the relative chronology is fully justified by the later works of the European Pargiter and the Indian Bhagavatdatta. One may disagree with Pargiter when he says that the Bharata battle was fought in 950 B.C and even more with Bhagavatdatta when he thinks that the Bharata battle took place in 3,100

relative chronology and synchronisms will be determined from the facts themselves and facts will not be made to follow the preconceived notions, as has hitherto been done.

Fifthly, due note will be taken of the two kinds of genealogies—the *vidyavamsa* i e the teaching succession or the school name, and *yoni vamsa* or the patronymic and the matronymic Hitherto, either no importance was attached to the school-name, or it was confused as the gotra name (see Pan 4 3 77)

## (1) Krishna of the Mahabharata

Krishna of the Mahabharata is basically a human being He is great and brilliant as a statesman, hero and scholar but is not yet deified except in the Gita He is the son of Devaki and Vasudeva and is, therefore, called both Vasudeva (father-Vasudeva) or Devaki-putra (mother=Devaki)

In the Puranas (especially the Bhagavatapurana and the Vishnupurana) which took shape by the Naimisharanya conference (108 A K) he is deified on account of his great deeds—particularly, the enunciation of the Gita He is often called *Narayana* which literally means "THE SON OF MAN"

NARAYANA
= NARA + AYANA (Pan 7 1 2)
= NARA + PHAK (Pan 4 1 99)
= Man + son of (Pan 4 1 92)
= Son of Man

(cf the standard example, Nad+phak = Nadayana)

In the Bharata battle, Krishna took the part of a counsellor and charioteer on the side of the Pandavas, when the battle became inevitable It should never be forgotten that Krishna did his best in the initial stages to avert the bloodshed, if at all possible

It has often been suggested that Krishna and Arjuna (who were born within a few months of each other—Krishna being

### 3. Life of Krishna Devakiputra

An important chronological question is whether the Vedic Krishna is identical with the Krishna of the Mahabharata. Weber first made this suggestion in Krishna-Janamastami, I.A. Vol. III, p. 22.

Vedic Krishna is the Krishna metioned in the Rigveda and the Upnishads as follows :—

*Chandogya Upnishad :* (3.17 6) as Krishna Devaki-putra
*Rigveda :* R.V X (42-44) by Krishna Angirasa,
R.V. X.90 by Narayana

A plain reading of these texts along with the Gita of the Mahabharata delivered by Krishna Devakiputra, leaves one with the impression that they are indeed indentical. Weber's suggession, therefore merits attention and is examined in some detail in the following passages :

*Guidelines :* In making this study, the following scientific premises will be kept in view as guidelines.

Firstly, all the persons *including Krishna* will be considered to be normal human beings subject to normal biological laws. For instance, the life span will be taken to be—on an average—about 100 years; the date of birth of the first male child will be taken on an average to be about 22 years; and so on.

Secondly, the objective is to find the most probable dates : The aim to find the least possible date is considered to be as unscientific as the aim of certain traditionalists to put back the dates to impossible antiquity.

Thirdly, tradition will be duly taken into account unless it is inherently improbable or is in direct opposition to some known fact; one should not be biased by some preconceived notion. e.g. that the Indians totally lacked any historical sense.

Fourthly, it will not be taken for granted that the Rigveda is long anterior to the events of the Mahabharata. In fact, the

finally,

(d) Narayana is but another name of Krishna

Some may object that the Rigveda was far, far earlier than the Gita It is necessary to remind them that this is but an opinion and is based on no evidence whatever However the rational answer is as follows

*Vyasadeva canonized the Rigveda* This is an universal tradition Till his death therefore, a hymn *could* find an entry into this anthology which was being made into a canon Incidentally, the literal meaning of the phrase *Rik samhita* is a 'collection of the riks because '*samhita*' is derived from *sam hita* which means put in one place' 'collected', or 'anthology' [Panini's definition 'Nearness means samhita' (Pan 1 4 109) covers a technical word which applies only to grammar ]

The collection of the *riks* was a long drawn process which began with king Hiranyanabha [D N 83, b 1650 B C ] It ended when Vyasadeva canonized the hymns and collected them into one solid mass The process of canonization must have continued upto his death, at least, say up to 1 400 B C The *Purusha sukta* is not an isolated instance of a late hymn, but there is a large number which can be attributed to the period (1600—1400 B C , they are scattered throughout the 1st Mandala 9th mandala and the 10th mandala

In particular the Purusha sukta R V X 90 must have been composed when Krishna was established as a leader social planner, statesman and great personality Similarly, the hymn R V X-43 on dice revenge must have been composed after the dice game 1,410 B C It is quite possible that the Purushasukta is the latest hymn of the Rigveda [c 1400 B C. ]

**GITA Composition of**

There are several reasons to believe that the Gita belongs to the first three recensions of the Mahabharata viz to the recensions of 10 A K , 34 A K and 103 A K

1 Gita forms a crucial focal point in the drama of the Bharata battle Its first two chapters which are spoken in an intensely animated voice and diction must belong to the original kernel i e to the Jaya (3 A K )

the elder) were both about 42 years of age at the time of the battle. This is *prima facie* plausible, because Arjuna was about to become a grandfather and Abhimanyu, his son, was the great *boy-hero* of the battle.

Taking all the activities of Krishna, one may divide his birth and life as follows :

| | | |
|---|---|---|
| Childhood and Gokul period | = | 11 years |
| (Boyhood and youth) = Mathura period | = | 15 years |
| Manhood = Dwaraka period | = | 16 years |
| (Age as at Bharata battle | = | 42 years) |
| Subsequent life | = | 21 years |
| Total | = | 63 years |

(The period of 21 years only is taken, because Krishna died 36 years after Yudhisthira's coronation at the Rajasuya ceremony which took place 15 years before the Bharata battle.

The relative dates are as follows :—

| | | |
|---|---|---|
| Birth | = | 42 B.K. |
| Leaves Gokul and goes to Mathura | = | 31 B.K. |
| Leaves Mathura and goes to Dwaraka | = | 16 B.K. |
| Bharata battle | = | 0 B.K. |
| Death (Dwaraka) | = | 21 A.K. |

(Life span of 63 years from 42 B.K. to 21 A.K.) (?)

(2) **Chandogya Upanishad**. 3/17/6 : This mantra states :

Ghora Angirasa [i.e. Acarya Ghora of the Angirasa school] taught Krishna Devakiputra [Krishna, the son of Devaki] that the whole life of a man is a continuous sacrifice : Krishna on learning this great ideal become detached.

This *mantra* not only states that Krishna was the son of Devaki, but it also shows that Krishna was an Angirasa i.e. he belonged to the Angirasa school. The *mantra* teaches detachment because the whole of life is a sacrifice. This is, in essence, the teaching of the Gita. Hence, there is hardly any room for doubt that the Krishna of the Mahabharata (viz. the

**Ugrashrava Sauti :**

The chapter may now end with its tribute to Ugrashrava Sauti—the great *itihasakara* of ancient India.

It was once suggested in a *goshthi,* that entire Gita was a didactic interpolation in the Mahabharata. The retort came at once, from Shri Satish Misra, the then Chief Justice of the Patna High Court, "If so, then, the interpolator was a greater epic poet than the original." How true !

The Hindu *dharma* as we know today is a tri-une in which the Upanishads, the Puranas and the Smritis have merged. The emergence of Brahma-Vishnu-Maheshwara as the tri-une God—the Lord with three *visors*—has given an unique all comprehensive character to the Hindu religion—integration and synthesis being the hall mark of Vyasian vision The execution of this titanic task was left by Vyasa to his disciple Romaharshana and his son Ugrashrava Sauti and they did it magnificently through the Purana and the Mahabharata—the epitomes of the popular historical literature.

Of the great mass of literature embedded in the Mahabharata and the Puranas, the brightest gem undoubtedly is the Gita. There is hardly any doubt now that the Gita as we know today is the finished handiwork of Ugrashrava Sauti. With its seed planted by Krishna, the mind given by Vyasa and the body nurtured with infinite care and tenderness by Ugrashrava, it is the song divine of relentless action, unflinching pursuit of duty, total surrender and cosmic vision, all immersed in an unperturbable silent calm and self composure. It is the essence of the Veda, the living fount of wisdom—the perennial stream which has sustained Hinduism through the ages.

The people who created that literature were great men : They began like titans and finished like jewellers. The present chapter, therefore, ends with a tribute to that outstanding genius Ugrashrava Sauti who, standing in the great Naimisharanya conference of the sages at that crucial YUGA-SANDHI when the Vedic order was being metamorphosed into the Puranic, described the ITIHASA of those soul stirring times—the fifth Veda—with divine creative inspiration.

elaborate discussions on Sankhya and Yoga must be a product of deliberations in the Naimisha conference.

7. Finally, the terrible fratricide cannot be justified except by making Krishna the god in person; for, God (and only God) is answerable to none. One must accept God's dispensations in good cheer—being the final wisdom of the Bhaktivada, which, as we have said, was finally accepted in the Naimisha conference.

Hence, the Gita as we know today, must have received its tentatively final shape by the Naimisha Conference, because all the tenets discussed in the Gita were being hotly debated in the century preceding the conference—thanks to the intense thinking that must have been the result of the holocaust of the Kurukshetra battle and sparked off by Carvaka's rebukes. Tentatively, we may put the composition of the Gita with some measure of probability, as follows : Gita=(3 A K.) (34 A K ), (108 A K.) (Minor interpolations upto 1200 A.K.). This would, of course, be the broad pattern also of the Mahabharata itself.

However, the question remains as to why Krishna allowed the holocaust to happen even though he knew of its terrible consequences to the future of India. We offer one reason for the consideration of the readers, even though it has not been explicitly stated anywhere, apart from those already known.

In those days, a kshatriya could not condone one crime, viz the insult to a woman. Duryodhana had insulted Draupadi in public after the dice game. He used unspeakably filthy language in an open assembly to his *kula-badhu*—an honoured lady of his own clan. Draupadi was Krishna's *shakhi* (a vedic word whose noble beauty is difficult to express in English); Krishna, her *sakha*, could not allow this crime to go unpunished even though Arjuna had apparently forgotten it. Hence, Krishna insisted that, come what may, the battle must, *must* continue.

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The people who created that literature were great men : They began like titans and finished like jewellers. The present chapter, therefore, ends with a tribute to that outstanding genius Ugrashrava Sauti who, standing in the great Naimisharanya conference of the sages at that crucial YUGA-SANDHI when the Vedic order was being metamorphosed into the Puranic, described the ITIHASA of those soul stirring times—the fifth Veda—with divine creative inspiration.

4 (VI *Bhisma* 2 23) On the eve of the battle, Vyasa met Dhritarastra at night He said that it was Kartiki Purnima and the moon was lustreless The full moon, therefore, was either at Krittika or at Rohini and further, the sun *must* have been near Jyeshtha (Antares) It means that the battle commenced on the First day of the dark fortnight of Margashirsha (Agrahayana) Further, the moon was at Margashirsha and Gita was announced that day i e on Margashirsha Krishna Pratipada and the lunar months were Purnimanta (If the months are taken to be *amanta*, then Bhisma's death would be in Pausha but it is known that he died when Magha had well begun (see *infra*)

It further follows that on the 69th day when the Bhisma died it was Krishna Ashtami navami of Magha (vide infra 2)

5 [VII Drona 185,48 (Gita Press)] On the fourteenth day of the battle, fighting continued at night Ghatotkaca fell in that night battle The important point to note is that the moon rose late towards the close of the night It was therefore, Krishna 13 14th

6 [X, *Shalya*, 33 5] On the eighteenth or the closing date of the battle, the moon was at Shravana It was the day of the mace battle between Duryodhana and Bhima Balarama had just returned from his tour

7 [*Ibid*] Balarama said clearly that he had started in Pushya, and after 42 days, had returned in the nakshatra Shravana This is verified as follows

| | |
|---|---|
| Pushya to Punarvasu | =27 nakshatras |
| Pushya to Shravana | = 15 nakshatras |
| | 42 nakshatras |

This shows that Balarama s version was substantially correct

8 (VI Bhisma—114 89 and XIII—Anushasana—153 28) Bhisma died just after the *Uttarayana* i e just after the winter solstice This is the key to the determination of the epoch

**Ugrashrava Sauti :**

The chapter may now end with its tribute to Ugrashrava Sauti—the great *itihasakara* of ancient India.

It was once suggested in a *goshthi*, that entire Gita was a didactic interpolation in the Mahabharata. The retort came at once, from Shri Satish Misra, the then Chief Justice of the Patna High Court, "If so, then, the interpolator was a greater epic poet than the original." How true !

The Hindu *dharma* as we know today is a tri-une in which the Upanishads, the Puranas and the Smritis have merged. The emergence of Brahma-Vishnu-Maheshwara as the tri-une God—the Lord with three *visors*—has given an unique all comprehensive character to the Hindu religion—integration and synthesis being the hall mark of Vyasian vision. The execution of this titanic task was left by Vyasa to his disciple Romaharshana and his son Ugrashrava Sauti and they did it magnificently through the Purana and the Mahabharata—the epitomes of the popular historical literature.

Of the great mass of literature embedded in the Mahabharata and the Puranas, the brightest gem undoubtedly is the Gita. There is hardly any doubt now that the Gita as we know today is the finished handiwork of Ugrashrava Sauti. With its seed planted by Krishna, the mind given by Vyasa and the body nurtured with infinite care and tenderness by Ugrashrava, it is the song divine of relentless action, unflinching pursuit of duty, total surrender and cosmic vision, all immersed in an unperturbable silent calm and self composure. It is the essence of the Veda, the living fount of wisdom—the perennial stream which has sustained Hinduism through the ages.

The people who created that literature were great men : They began like titans and finished like jewellers. The present chapter, therefore, ends with a tribute to that outstanding genius Ugrashrava Sauti who, standing in the great Naimisharanya conference of the sages at that crucial YUGA-SANDHI when the Vedic order was being metamorphosed into the Puranic, described the ITIHASA of those soul stirring times—the fifth Veda—with divine creative inspiration.

In preparing the following table, the year 1966 67 A.D has been taken as parallel (the years run parallel with respect to the sun the moon and the stars (nakshatras) after cycles of 3,8,11 and 19 years to a first approximation)[1]

The data were chosen from the *Visuddha siddhanta panjika*—a Bengali almanac which is merely an Indian transcript of the Greenwich Nautical Almanac The positions were actually verified by naked eye observations from the autumn to the spring months of the year, to ensure that they conform to the Vedic style of narration—which was in vogue at the relevant epoch

The data are now given in a form which can be easily followed by a lay reader The mathematician who wishes to verify may kindly note that

1 The nakshatra means the bright star as given in the table of the nakshatras in the P L A , p 54-5

2 The longitudes are given with respect to the base year 1970 A D The *ayanamsa* is taken at 23°/22 for conversion purposes

3 Months are taken as *Purnimanta* (unless the *Purnimanta* months are taken, Bhisma's death would fall in Pausha The Amanta system was introduced after a few years in the Vedanga Jyotisha)

4 The English dates are given according to the *Gregorian* year 1966 A D

5 It is an approximate parallel, given only to show that the Mahabharata data are plausible according to the observation Please note carefully that the table does *not* give the position as in 1424 B C but that *it is only a rough parallel*

The difficulty of calculation of the epoch of the battle arises only because it was not a standard year of Magha According to Pitamaha Bhisma, the winter solstice should have taken place in a standard year only at the *tribhaga shasha* of the whole fort-

1 P L A pp 21 35

of the Mahabharata battle, because once the point of the solstice in the nakshatra circle is known, the epoch can be computed—taking the rate of precession at 72 years per degree.

9. (VI. Bhisma, 114.91—100). Bhisma fell on the tenth day after the commencement of the battle; it was, therefore, *Margashirsha krishna ninth/tenth.* Some migratory birds (which were season-indicators) appeared, and they knew that *the winter solstice was two months away.* Bhisma decided to live for about two moons—i.e. till the solstice occured and the sun turned north.

10. (XIII. Anushasana 153.27). After his fall, Bhisma lived for fifty-eight nights on the bed of the arrows. This means that Bhisma died sixty-eight days after the battle had commenced.

11. (XIII. Anushasana 153.26). Uttarayana i.e., the winter solstice took place just then; it was determined by expert observers at dawn.

12. (XIII. Anushasana 153.28). Bhisma said that at the *uttarayana*, *'it ought to be' Magha shukla tritya.* This is very interesting because it was actually the eighth day of the dark fortnight, yet Bhisma said that it *ought to be* the *shukla tritiya* i.e. the third day of the white fortnight. It is therefore a *Vyasa-kuta* and it follows that it must have been, *of necessity*, composed by Vyasa himself. This shloka, therefore, belongs to the original Vyasian layer of the Mahabharata.

*For a solution of the knotty text (i.e. the Vyasa-kuta), please* see the next section.

**Approximate battle calendar.**

On the basis of these eleven observations, a self-consistent battle calendar is to be drawn up. Not only should it be self-consistent, *but it must be shown further that it is observable* i.e. an actual year should be found when this set actually occured. In *jyotisha*, observation is the final arbiter and nothing else matters : *candra-arkau yatra sakshinau* : The sun and the moon will bear witness to what they say in the court of the stars.

| Sl. No. | Day | Solar month Indian (modern) |
|---|---|---|
| 1 | 2 | 3 |
| 1 | 28 11 66 | 1[illegible]th Agrahavana |
| 2 | 29 11 66 | 13th Agrahavana |
| 3 | 8.12.66 | 22nd Agrahayana |
| 4 | 12.12 66 | 26th Agrahavana |
| 5 | 16 12.66 | 30th Agrahavana |
| 6 | 2.2 67 | 19th Magha |
| 7 | 3.2 67 | 20th Magha |

Note As the sun is taken at 24:

*See Nilkantha Bhuma-parva

Event

9

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Vyasa talks to Dhritarashtra on the night before the battle.

*Gita del ered*

*Bhisma falls*
*Migratory birds appear*

*Drona falls   Night battle   Ghatotkaca falls*

*Mace battle   Balarama returns*
*Duryodhana falls   Grim slaughter of the dark night*

*Winter solstice—*
*observed by Bhisma's observers*

*Bhisma dies*

---

·n at 249°, the solstice would be, at 317°.

## TABLE A

## An approximate parallel year 1966-67 A.D.

| Lunar paksha (ancient) | Sun at sunrise | Moon | Tithi | Day of the batt |
|---|---|---|---|---|
| 4 | 5 | 6 | 7 | 8 |
| Kartika (Anumati Purnima) | *Jyestha* 7/12/11 | *Rohini* | *Kartiki Purnima* (Anumati) | *Night before th battle* |
| | | | | *1st Day* |
| Margashirsha Krishna | 245.5° 7/13/11 | Mrigashiras | Pratipada* (Krishna) | |
| | | | | *10th Da* |
| Margashirsha Krishna 11 | 7/22/11 | | | *14th Day* |
| Margashirsha Krishna 15 | 7/26/23 | | Krishna | |
| | | | | *18th Da* |
| Margashirsha Shukla 4th | 8/10/27 | Shravana | (Krishna) | |
| Magha Krishna 8th (EKASTAKA) | 9/19/19 —312.5° | | Ekastaka | |
| | | | | *69th Da* |
| Magha Krishna 9th | 3/20/20 —313.5° | | | |

* 245.5° on the initial day, the solstice is at 312.5° ; if the initial sun is tak

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Hence, at the epoch of the solstice,

the sun = 250° + 68°
= 318°

Solstice in the base year 1970 A D = 270°
(by definition)

Hence, the precession = 48°
the time lapsed = 48 x 72 years
= 3456 years
the epoch = 1486 B C

**Second method** In the winter months the sun moves faster than in the summer months One can take the actual equations of the sun's true motion and calculate the true position of the sun Such labour, however, is wasted because the original position is not known with that accuracy which would warrant such meticulous calculation The alternative method is to take the calendars, and select a year in which there is full moon at or near Aldebaran and the sun is at or near Antares (If there is a lunar eclipse then the method would become very accurate)

By scanning the *Vishuddha siddhanta* almanac, which is a mere transcript of the Greenwich nautical almanac, i e which gives the true observed sun, it is found that the Gregorian year 1966-67 A D is a parallel year which follows and recapitulates the above eleven observations quite closely This will be apparent from the table of the positions of the sun and the moon on those critical days as given above It is found that the sun started at 245 50°, near Antares on the eve of the battle and at the crucial day of solstice it was at (or very near) 312 5° This gives the precession of 42 5°, leading to the epoch of 1090 B C

It should be noted that the initial position of the sun in the above set of 1966 67 A D is only 245° i e about five degrees in front of Antares If the initial position is taken to be 249° (at Antares itself), the solstice would be at 317° This would give a precession of 47° and the epoch at 1414 B C This would give the upper limit of the epoch by the astronomical method This wide margin arises because the initial range is taken to be

night of Magha and, 140 years later, during the *Vedanga jyotisha* observations, it was taking place at the junction of Pausha and Magha. For the readers who do not know how to find the tithi of the cardinal days, a table of winter solstice tithis during the Mahabharata period would be of interest.

**Winter solstice tithis in c.1400 B.C.**

a. *For purnimanta lunar months.*

13/14 shukla Magha

2/3 shukla Magha (This is the basic year or the *samvatsara* herein, called the Standard year)

9/10 Krishna Magha.

[The lunar synodic year (=360 tithis) falls short of the true year (=371 *tithis* by Viswamitra's rule) by eleven *tithis* in one year.

This is the observer's scheme. Theoretically, many other permutations and combinations are possible. The triplex of the moon's positions was called the '*Trikadruka soma*' by the astronomers; the ritualists had a parallel ritual over *their* '*soma*'.

The table of positions is now appended, (vide Table A)

**Calculation of the epoch of the battle :**

There are two modern (and one ancient) methods of calculation. The first method is purely theoretical and assumes a uniform rate of motion for the sun. The second method is more precise, inasmuch as it takes the actual motion of the sun into account. The third method is the ancient Viswamitra's method and depends upon the advance of the seasons and calculated in terms of the Vedic *tithis.*

**First method :** The initial sun is assumed to be at Antares (long. 249.50°). The solstice took place after 68 days when the sun moved through about 68°.

3. Baudhayana's observation that the vernal equinox was taking place at Apa-bharanis[1] 1376 B C
4. Baudhayana's observation that the corresponding winter solstice was at Dhanishtha ... 1333 B C

These references show that the astronomical observations of the sutra literature were actually made during 1400—1250 B C

*Having shown that the sutra literature of the Vedangas belong to the period 1350—1250 B C at the latest, it could be said with some confidence that the date of c 1350 B C —1450 B C for the Bharata battle is not unreasonable*

(Panini's date will be separately considered)[2]

## 2 Pitamaha Bhisma and Astronomy

Pitamaha Bhisma was an astronomer of no mean standard He promulgated a new system of calendar, which was later called the Pitamaha Siddhanta and became the basis of Vedanga Jyotisha

Being interested in astronomy, he employed a regular staff, and they reported to Yudhisthira, [see Anushasana parva]—when the sun turned North Bhisma was so keen to know about the sun's turning north (because he was a true astronomer in spirit) that he would not die till he had heard of it This is, thus, another interpretation of Bhisma's connection with the winter solstice Finally, it would be remembered that Bhisma was said to be an incarnation of a Vasu—an astronomical god—a god whose function was to define time

When the Pandavas were sighted after 13 years of exile (12 years *vanavasa* and one year *ajnatavasa*), Duryodhana raised a doubt that they had come back before their term The complaint was heard by Pitamaha Bhisma Pitamaha laid down the principles of chronometry, calculation of lunar years *and* intercalation, he laid down that *in five years there shall be two*

1 p 67 9 *supra*, Gorakh Prasad, JRAS, 1936, p 417

2 see Panini and Katyayana, JAHRS, Vol XXXIV (in press)

as much as five degrees. The upper and the lower limits are therefore 1414 B.C. and 1100 B.C. respectively.

**Third method :** The third method is quite different in principle, inasmuch as it seeks to determine the advance of the solstice in tithis. The Vedic people did not measure the angles but they measured the tithis.[1] A tithi can be accurately determined, and an uncertainty of one tithi causes a difierence of only 72 years in the determination of the epoch. Thus, it is not only more direct (because it follows the vedic observables) but it is also more accurate.

The method follows Viswamitra's astronomy which determined the initial point at Krittika purnima (see AI, pp. 137-40) and which found the rate of 3339 parivatsaras for 45 tithis in precession of the seasons. However, an accurate determination needs an accurate discussion of the original words, and, hence, the words of Pitamaha Bhisma, the great astronomer, who declared that it *ought to be the tribhaga-shesha of the white fortnight of Magha* requires detailed consideration. This will be done in the next section. (pp. 124).

**Indirect astronomical evidence.**

It is uniformly accepted that the sutra literature *followed* the Bharata battle. Hence, if the date of the composition of the sutra literature could be found, then it could be asserted with some confidence that the Bharata battle was anterior thereto. The period of composition of the vedanga (=sutra) literature was therefore closely examined in chapter V *supra.*

It was found there that FOUR different observations were made by the sutra-karas and their period ranges from 1376 B.C. to 1270 B.C. as follows:

1. Vedanga jyotisha observations by Suci and Lagadha[2]... 1270 B.C.
2. *Grihya-sutra* observation of k-Draconis as the pole star by Ashwalayana (b.1388 B.C.)[3] ... 1326 B.C.

1. P.L.A., pp. 132.
2. A.I., pp. 35-9.
3. A.I., pp. 7, 83.

observers *(nakshatra darshas)* They reported to Yudhisthira, when Bhisma was awaiting his death By comparing the dates and synchronising, it is clear that one of these observers must have been Parashara, the father of Vyasa, who was born in c 1528 B C and was slightly older than Bhisma The second observer was probably Garga II, whose rule of solstice tallies with that of Parashara The original works of Parashara and Garga are now lost but Bhattotpala has preserved the crucial quotations (see Sir W Jones, A R Vol II p 39) In fact, Sir W Jones has noted carefully that the text of Parashara was 'modulated' i e pitch accented and in old Vedic prose This shows that the original text of Parashara is preserved, and belongs to c 1420 B C (see A I, p 45)

Bhisma laid down the rule of solstice in his dying declaration It has not been understood properly and has given rise to needless controversies For instance, the popular translation (see e g the Gita Press edition widely read in India today) is as follows (M Bh Anu, 167/26) —

"O Yudhisthira, the sun has certainly returned *(Parivritto)* The month of lunar Magha is well set now *(sam anu prapta)* One quarter of the month (?) is gone and three quarters left *(tri bhaga sesha paksho ayam)* It is the white fortnight of the month *(Shuklo bhavitum arhati)*"

There are two minor mistakes in the interpretation perhaps because the translator was not an astronomer Firstly, the phrase is 'tribhaga sesha *paksho* ayam', which means three quarters of the *fortnight* (and not month) is left The second is that the entire diction is translated in present definite tense— "*it is*", whereas the original phrase is *bhavitum arhati* or '*it shall be*' "*it ought to be*' Making these amendments the text reads —

'O Yudhisthira, the sun has certainly turned north It *ought to be* the lunar month of Magha well began, and the tithi *ought to be 3 75* of the white fortnight"

¼ of one paksha is 3 75 tithis because, the paksha is of 15 tithis As the winter solstice took place the day before, the tithi of winter solstice ought to be 3rd tithi, more accurately, the

*adhikamasas (intercalary months)*. This meant a year of 372 tithis. *Said Bhisma* [M. Bh., Virat parva 52/1].

"There are kalas, kasthas, muhurtas, days, fortnights and seasons forming the year. Thus dividing the time, the *great time-wheel* revolves with the measuring stars *(nakshatras)* and the planets *(grahas)*".

"Owing to differences in their periods of revolutions *(tesham kalatirekena)*, two extra (lunar) months are created in every five (lunar) years".

He then carefully calculated that Pandavas had exceeded their term by at least six days—even after taking into account the five intercalary months and six *tithis* embedded in thirteen years. In these passages, Bhisma is called Pitamaha.

This statement of Pitamaha must relate to the original kernel of 'Jaya'—for, *it is a necessary crucial incident of the Pandava story* : It has appeared unchanged in all editions as such. If it was narrated in the original '*Jaya*' editions it would go back to 1,410 B.C. If it was there in Vaisampayana edition it would be dated 1,390 B.C. And, if it appeared in Sauti edition, it would go back to 1,316 B.C. All these dates are prior to the Vedanga joytisha observation of king Suci, made in c.1,270 B.C.

Vedanga jyotisha adopted Pitamaha's system of intercalation viz. "*two extra months in five years*". It is thus found that the Vedanga jyotisha scheme of five year-yuga was originally laid down by Pitamaha Bhisma and later became the Paitamaha siddhanta which was current till *Varahamihira's time c.507 A.D.*

An astronomer of those days was required to do two things. Firstly, he was to determine the length of the tropical year by declaring a rule of intercalation, secondly, he was to determine the *nakshatra* and the *tithi* on the solstice day, when the year was to begin. Pitamaha laid down the rule of intercalation—two extra lunar months in five years—as already explained. Let us see how he did the second.

It is known that Pitamaha had employed a trained band of

Parashara by not more than five or six years The basic facts are —

(1) Parashara was the father of Vyasa by Satvavati At the time Parashara met Satyavati, she would be a very handsome young girl, both must be in their teens

(2) Shantanu fell in love with Satyavati being moved by the beauty of young Satyavati i e it must be within two months of the birth of Vyasa

(3) At the time of the marriage of Satyavati, Bhisma must be in his teens but he was old enough to make solemn declaration that he would not marry

Taking other facts and incidents of the Mahabharata, and taking the normal but short life spans we have found the following dates

(1) Birth of Vyasa deva say, 1508 B C
(2) Birth of Bhisma say, 1523 B C
(3) Birth of Satyavati say, 1523 B C
(4) Birth of Parashara say, 1526 B C
(5) Death of Bhisma = 1424 B C (100 years)
(6) Death of Vvasa, just after the sarpasatra say, 1390 B C

The scheme is consistent with the fact that the astronomical observations on Dhanistha were made during (1486-1414) B C, the hypothesis being that Parashara was Bhisma's observer

No complete text of the astronomical work of Parashara is now extant, but one gets some extracts of his works, through Bhattotpala who quotes them in his commentary on the Brihatsamhita of Varahamihira

Sir William Jones had a copy of the manuscript of Bhattot pala's commentary in his hand, and probably both Davis and Colebrooke had seen it Sir William Jones wrote a very important article "On Indian chronology" in the Asiatic Researches Vol II p 391 Jones, Davis and Colebrooke all felt the date of Parashara's observations to be c 1400 B C The name of Parashara's work which must have been seen by Bhattotpala was PARASHARA TANTRA (or Parashara Samhita)

junction of 2-3rd tithi. This refers to the position of the perfect year (*Sam-vatsara*) when full moon occurs truly at Magha. In the actual year, it was *Krishna paksha Astami* (*Ekastaka*) on Bhisma's death

Now, a *nakshatra-darsha* declares actual position, while a master astronomer declares the position as it ought to be in the year of perfect Magha; Bhisma's rule therefore, is a prescription, the word of a master astronomer—which, in simple language, means—

*"THE WINTER SOLSTICE OUGHT TO TAKE PLACE ON MAGHA SHUKLA DVITYA-TRITYA".*

It is *not* an isolated rule or *ad hoc* rule : Two centuries earlier Vagambhrini laid down the winter solstice on *Magha Shukla Pancami* : A century and half later, Lagadha placed it on the junction of *Pausha Krishna* and *Magha Shukla*.[1]

From this datum viz. that the winter solstice took place on the *Magha Shukla* tritya (on the third day of white fortnight of a year of standard Magha) at the time of Bhisma's death, the date can be easily computed to 1414—1486 B.C. [1270+144=1414 B.C.].

This is a simplified (over simplified is the correct word) account of the matter which is indeed difficult. It is indeed so recondite that the shloka may be safely declared to be a Vyasakuta : A more technical analysis will be given separately.

However, the significant features may now be pointed out :

(1) Bhisma had followed an old tradition originated by Viswamitra of declaring the *tithi* of the solstice.

(2) Only a master astronomer could declare the tithi and, therefore, it is Pitamaha and not Parashara, in whose name the Siddhanta stands, even though Parashara was the observer.

(3) Parashara being a *nakshatra darsha*, declared the *nakshatra* and not the tithi. In fact, he noticed that the moon

1. S.B. Roy, Chronological Infastructure of Indian Protohistory, JBRS., Vol. LVIII, p. 56-66.

Even Tilak adopts Bentley's date. We leave the readers to judge their accuracy and relevance.

**Initial Point of Dhanishtha**

It may be pointed out that many riddles would be solved if we posit *two* sets of observations—one set made in 1424 B.C. at Kuru and the other set made in 1191 B.C. at Videha. This assumption, one way or the other, would define the initial point of Dhanishtha as shown below :

The initial point of Dhanishtha *(considered as a division of the sky* measuring 13° 1/3) is *not* known. Different modern authorities have, therefore, arrived at different dates for the observations of the Vedanga Jyotisha, as follows :—

(1) Colebrooke, Davis, Sir William Jones = 1,391 B C.
(2) Our computation = 1,270 B C.
(3) Bentley, Spratt etc. = 1,191 B C.
(4) M.N. Saha, P.C. Sengupta, Dixshit = 1,450 B C.

Our computation not only avoids the extremes but it does not depend upon the initial point of Dhanishtha (which is *not* known for certain); it depends upon the junction tithi of the months of Pausha and Magha i e. upon Viswamitra's method. *Fixation of a tithi is always very much easier and more certain than fixing an invisible point in the ecliptic.*

One can work backwards to find the extreme limits assumed by the above workers. With 1424 B C., the time lapse in 3394 years i e. 47°; with 1191 B C , the lapse is 3,161 years i.e. 44°. Thus, the initial point of Dhanishtha would be 317° according to Colebrooke; and 314° according to Bentley.

Astronomers Varahamihira and Aryabhatta also faced the same problem. At their time (c 500 A.D ), the winter solstice took place at c.290°. Hence they arrived at two different rates of precession, depending upon whether the total amount of shift was taken at 24° or 27°. Varaha adopted 27° and arrived at the rate of precession of 54" per year. There are reasons to believe not only that Aryabhatta' took the correct amount of 24°, but also that he knew Viswamitra's rate of 72"

Jones made a very important observation on this manuscript (p. 393).

"We now come to the commentary, which contains information *of the greatest importance.* By former shastras are meant, says Bhattotpala, the book of Parashara and other munis; and he then cites *from the Parashara samhita the following passage, in modulated prose and in a style much resembling that of the Vedas :*

*"Shravishthadyat Paushnardhantam carah Shishirah".*

..............

The text of Parashara Samhita quoted by Bhattotpala read by Jones was, therefore, in pitch-accented (i.e. modulated) archaic Vedic prose. It will be shown that the pitch accented modulated Vedic *Spraach* was discontinued after the Upanishads and replaced by monotone texts of the Vedangas. This happened say, by (1400—1,300) B.C. Yaska's Nirukta [perhaps the earliest Vedanga (c.1400 B C.)]—is in monotone and only the quotations are modulated. Hence, the lower bound for the text of Parashara quoted by Bhatttopala is 1300 B.C. It cannot be much earlier either, because, according to M.N. Shah and others, the upper limit of the observation is 1450 B.C. Hence, on the basis (a) astronomical observations and (b) the evidence of pitch of accented text, and Parashara's astronomical observation, the text must be dated within (1450—1300) B.C.

Thus we have three different and independent methods to find Parashara's date.

(1) *Dynastic lists : Probable date of birth 1526 B.C.*

(2) Astronomical observation : 1450 B.C. (P.C. Sengupta) to 1,391 B.C. (Davis, Jones, Colebrooke).

(3) Evidence of pitch accented text, say (1,450—1,300) B.C.

**The Western School at Kuru**

Colebrooke and Davis computed from the works of Parashara, Garga etc. that this observation took place in c.1,390 B.C. Hence it may be conjectured that the observations of the western school at Kuru were made in about

evidence of this inscription would indeed be very great, but in the absence thereof, the inscription stands unconfirmed. The only earlier inscription known that refers to the Bharata battle era, is the Hisse-Borala inscription which flatly contradicts the Ahiole inscription Further, there is no evidence that a count of years was maintained since 3100 B.C.—and, therefore, it is difficult to feel convinced about the evidentiary value of the *Ahiole inscription* On the other hand, the *Puranas mention* that a count of centuries was, in fact, left in the form of the *'nakshatra yuga'* scheme of *Briddha Garga, and the Hisse-Borala* inscription refers directly to this era of the nakshatra yuga, which mentions Nanda, Yudhisthira, Pratipa and to the end of Andhras among others. It being known that Briddha Garga lived in c.2200 B C.,[1] the evidentiary value of Dr. Sobhana Gokhale's find of the Hisse-Borala inscription is very great indeed. To this we now turn.

**2. Hisse-Borala inscription[2]**

Pargiter did not rely upon any inscription for his dating. Recently, Dr. Sobhana Gokhale has discovered an inscription of Vakataka Devasena dated 380 of the Shaka year. This crucial inscription was found at Hisse-Borala (original Vatsa Gulma) On its basis, Roy has shown that only two dates are possible for the Bharata battle viz.

I. 1280 B C., taking the initial Shaka epoch to be 78 A.D.
II. 1414 B C., taking the initial Shaka epoch to be 57 B.C. with Vikramaditya as the Shakari

Further, the inscription is interpreted to give as its datum as the Nakshatra Uttara Bhadrapada, and on its basis, Roy works out the following dates in the Nakshatra yuga system :

| Event | I | II |
|---|---|---|
| 1. Birth of Parikshit | 1280 B C. | 1414 B.C. |
| 2. Nanda's reign *(Purna-assadah)* | 243—143 B.C. | 377—277 B.C. |
| 3. End of the Andhras | 358—458 B.C. | 224—324 B.C. |
| 4. Date of the Hisse-Borala inscription | 458 A.D. | 324 A.D. |

1. A I., p. 137-151.
2. For a full discussion, please see A.I., pp. 131-36.

parivatsaras per dyu (which is precisely equal to 1 degree per 72 years)[1].

According to our datum of 1,270 B C., the initial point comes to 315.88°. As the longtitude of B. Delphinis measurers 315°, we think that Lagadha took this very star to be the initial point of his sphere.

### 3. Inscriptional Material :

#### 1 Ahiole inscription

There are only two inscriptions which are of importance in regard to the date of the Bharata battle. One is the inscription of Ravikriti from Ahiole and the second is of Vakataka Davasena of Hisse-Borala (original Vatsagulma) dated '380 after Shaka'.

The first inscription—from Ahiole[2]—is dated the year 506 of the *shaka* era i.e. 584 A.D. It specifically states that the Bharata battle took place 3685 years before and thus gives a date of 3101 B.C. for the Bharata battle. The orthodox school of the Indologists cite this in support of a date of 3101 B.C for the battle.

The main weakness of the argument of this school is that the inscription was recorded more than 3699 years after the event and there is no earlier inscription to support it. The second and the more important argument is that it was recorded *after* Aryabhatta, and obviously followed the Aryabhatta tradition, because before Aryabhatta there is no record anywhere that the battle was fought in 3100 B.C. [For the real meaning and significance of the epoch of 3102 B.C. please see Ancient India, p. 137-151].

If any inscription or dated material is found earlier to 499 A.D. (the date of Aryabhatta) to that effect, then the

1. "Catur-Vimsati-amsair ubhayato gacchet", quoted by Colebrooke in A R., Vol. IX, p. 323
2. James fleet, Sanskrit and old kanarese inscriptions, I.A., Vol. VIII, p 242-4

The first objection to the proposed date bracket of 1424—1280 B.C. is that the Indian history is silent during the period 1280—750 B.C. Vedanga jyotisha was composed in c 1270 B.C. and, thereafter, the next important personality is that of Parshvanatha, the Jaina Tirthankara, who appeared in c.750 B C.

With 750 B C., one finds (a) the beginning second urbanization (b) the rise of Shishunaka dynasty and (c) the NBP (or Northern Black Polished Ware). The dawn of Indian history breaks with 750 B.C., but the period of (1200—750) B.C., is wrapped in strange silence.

Who ruled India in this dark age—any foreigners like Gandharvas (Pathans), Western Nagas or Iranians? Or, was it some autocthonous group like the Matacis who left their trace in their painted grey ware. Ramendra Sundar Trivedi, the great Bengal intellectual (who was equally versed in the Vedas as well as in modern sciences), once said that unless the veil is lifted from over this dark age—Indian protohistory will never be written. How true!

The other difficulty is about the mention of iron in the Mahabharata[1] and Ashtadhyai of Panini The historians of the school of Western Indology assert that iron was used in India only in about 600 B.C. and hence that these books must be later than 600 B.C.

This difficulty is hypothetical. Firstly, negative argument dose not prove anything. Secondly, very early use of iron is established from the remnants at Noh, Atranjkhera and Ahar.

Even the radiocarbon dates of these finds show that iron was in use in at least 1100 B.C. and probably in about 1200 B.C. and these dates will be considerably updated when MASCA correction AND Roy correction[2] are applied. It looks almost certain from the present trend of researches that use of iron in 1200 B.C., if not earlier, will be soon established.

1. Some scholars believe that 'Ayas' in Mahabharata is copper and not iron.

Preferring the second series, Roy adopts 1414 B.C. as the date of the Bharata battle, particularly because it tallies with the astronomical dating independently worked out at 1486—1414 B.C.

It is to be remembered that the Hisse-Borala inscription is a specific document—the earliest available on the subject. One must cite equally cogent evidence *viz, an earlier inscription*—before it could be ignored altogether Chronological *ankylosis* should not be allowed to cloud the vision on this important issue.

Finally, the interested reader who is keen to proceed scientifically should remember that the dating of an incident is neither *ad hoc* nor isolated. It is linked forward and backward with the entire history of the land Nay further : an important incident should be linked with the world chronology if possible, and, in no case, should it be allowed to flout the well established dates of the world. The religious faith of a Hindu, I am sure, will not be hurt by a scientific truth because the Hindu has only one creed viz, TRUTH ABOVE ALL. The date of 3100 B C , therefore, cannot be accepted *because it will confound the world chronology by 1700 years.*

The reader should further remember that the proposed date of c.1400 B C. is neither *ad hoc*, nor isolated nor arbitrary. It is only a part of an extensive chronological infrastructure based on the concordance of astronomy, Rigveda, Puranas and the original Gathas of Zarathustra, whose plausibility is sought to be established by extensive cross contacts with the West Asian cuniform inscriptions of the period 2005—1970 B C.[1]

#### 4. Weaknesses

It is very necessary in a scientific objective discussion, also to point out the weaknesses, if any, of the proposed estimate. This should be done, in addition to the margin of error which, in any case, must *always* be clearly shown.

1. See the bibliography cited at the end of chapter IV—for further reference.

# IX

# Date of the Bharata Battle—II : *extant theories reviewed.*

The date of the Bharata battle has been differently estimated by different authorities. They fall in four groups as under :

| | | |
|---|---|---|
| Group A | : | *circa* 3,100 B.C. |
| Group B | : | *circa* 2,500 B C. |
| Group C | : | *circa* 1,450 B.C. |
| Group D | : | *circa* 950 B C. |

The authorities are as follows :

**Group A (c.3,100 B.C.)**

| *B.C.* | | |
|---|---|---|
| 3201 | D.R. Mankad— | *Puranic chronology.* pp. 107. |
| 3137 | M.M. Krishnamacari | *History of classical —Sanskrit Literature.* pp. xli—lxxvii. |
| 3102 | C V. Vaidya | *History of Sanskrit Literature (Vedic period)* see iv pp. (4-8) Mahabharata, a criticism—(65-92). |
| 3016 | V.B. Athvale | *J.G.R.I.* Vol. I Pt. I p. 204. Vol III—p. 133. Vol. IV—pp. (125—158). Criticisms by Cidambara Aiyer in Vol IV—pp. (35—44). |

Further, iron was used by the Hittites in 1600 B.C. and probably in 1700 B.C. Hittites were a branch of Aryans and cross contacts between the Aryans of West Asia and India is now well established. It is, therefore, clear that what is needed is an intensive examination of Iran, Baluchistan, Gandhara and Pakistan rather than a summary fiat "Iron was used in India in 600 B C." based on admittedly meagre archaeological excavation.

In short, both the grounds of attack are negative in character viz, the absence of material. It is not necessary to repeat that the absence of material is never the positive proof of anything. Besides, looking at the vast geographical area of India and Aryana, the archaeological excavations are scattered, scrappy and meagre. No history can be written on such meagre data

The recent archaeological excavations at Bhagwanpura by J.P. Joshi is a case in point. *Joshi has convincingly demonstrated the existence of the Painted Gray Ware (so far identified with the Pandavas) and the late Harappan ware in juxtaposition.* As the late Harappan ware begins from about 1800 B.C., it is apparent, if nothing, that the date of the PGW will necessarily have to be put back by 500 years to about 1500 B.C.—if not earlier. As Bhagwanpura is at the heart of the Kurukshetra (being only about 24 km. from the town of Kurukshetra), its relevance and significance on the history of the Kauravas and the Pandavas is immense. One must, therefore, await Joshi's fuller analysis with keen interest : it has definitely enhanced the probability of the Pandava chronology proposed in the 'Ancient India' and now amplified in this book.

It may also be pointed out that 'Ayasa' of the Mahabharata need not be an 'iron' : 'ayasa' may mean copper only if the vedic meannig is given. In the older section of the Mahabharata, the vedic meanings are more appropriate.

**3102 B.C.** (Group A)

Aryabhatta (and also, Brahmagupta in his *Khandakhdyaka*) took the midnight of 15-16th February 3102 B.C. as the epoch for beginning his astronomy. This was, therefore, the beginning of his system and subsequent writers called this beginning to be the Kaliyuga.

It does not mean that Bharata battle was fought in 3,102 B C because Astronomical Kali is altogether different from Puranic Kali : In astronomy, beginning of Kali Yuga means simply the beginning of an era.

Kali is an old vedic word derived from the root (Kal) which means fluxion of time. The following terms are also used in the vedic game of dice.

| | | |
|---|---|---|
| Kali | = | 1st |
| Dwapara | = | 2nd |
| Treta | = | 3rd |
| Krita | = | 4th |

It should be particularly noted that the proper order is the ascending order viz. Kali (1st), Dwapara (2nd), Treta (Third), and Krita (4th) i.e. the system goes *backwards in time* This sequence was adopted by Vyasadeva in designing his Puranas because he wanted to describe "Puranic iti-vritta" i.e. past history—going backwards in time.

Aryabhatta Kali (3,102 B.C ) is an astronomical calculation of the epoch when the vernal equinox was taking place at Rohini.[1] (Rohini=69.5°, Jyestha Rohini=249 5° i.e. differing by exactly 180°). It was an *ad hoc* beginning for the measurement of time; this was so because every astronomer has, of necessity, to begin his system from some definite point of time—chosen *ad hoc*. If I begin an astronomical system—I shall have to begin with an *ad hoc* beginning of time and shall call it 'Kali'—i.e. beginning of an era. (In fact, I *have* chosen 1970 A.D. as my epoch—the year in which Indira Gandhi was ruling India).

1. Roy, P.L.A., pp. 57-65; also A.I., p. 137-151.

**Group B (c.2,500 B C.)**

(1) Varaha Mihira—*Vrihat Samhita*
(2) Kalhana—*Rajatarangini*
(3) P.C. Sengupta—*Indian Chronology*

**Group C (c.1450 B.C )**

*B.C.*

1424—A. Cunningham : *Archaeological Survey —first report 1864*

1424—K P. Jaiswal : *JBORS*—Vol. I, Pt. I—p. 109.

1432—Tarakeswar Bhattacharya—*JGRI*—Vol. VII (1-75).

1416—Girirdra Shekhar Basu : *Purana Pravesha* (Bengali) (Comments in *Sankhya*—Vol. 2—Part III).

1400—Bankim Chandra Chatterji : *Krishna caritra.*

1400—Vivekananda : Comp. works, Vol. II, pp. 27, 29

1400—A.D. Pusalkar : *History and Culture of Indian People*—Vol. I—300 & 269.

1400—B.G Tilak : *Gita Rahasya (Hindi)* 548-552

1400—H.C. Deb : *First All India Oriental Conference, Poona 1919*, pp. 351-363.

1267—B B. Ketkar : *Oriental Conference, Poona*, pp. 444-459.

1191—Shri Aurobindo : *Vyasa and Valmiki.*

1197—a) K.L. Dapthary : *Astronomical Chronology of Ancient India* 54, 94, 124; proceedings of Oriental Conference pp. 311-20.

„ b) K.G. Shankar : *Annals of Bhandarkar Institute*—Vol. XII—pp. 300-361

1151—c) Sitanath Pradhan : *Chronology of Ancient India*—pp. 262-269

**Group D (950 B.C.)**

950 B.C. Pargiter : *Ancient Indian Historical Tradition*—pp. 175-83

900 B C. Roy Chowdhuri : *Political History of Ancient India* (5th Ed.)—pp. 35-36.

followed by Kalhana in his Rajatarangini (composed in c.1100 A.D.). In modern times it was strongly relied upon by P.C. Sengupta.

We shall show (*a*) how this date was arrived at (*b*) its true meaning, and, finally, (*c*) why it cannot be the date of Bharata battle.

## Briddha Gargya

Gargya s/o Garga was an ancient astronomer. He was so ancient that even the Mahabharata considered him to be ancient It has been already shown that Gargya (D.N. 50) was born probably in c.2,285 B C.

Gargya wrote the Nakshatra hymns of the Atharva Veda (A.V /7,8). His list of Nakshatras start with Krittika and, therefore, he lived in *c.*(2200—2300) B.C. Gargya made the brilliant chronological suggestion that successive centuries be indicated by successive nakshatras *(see infra)*.

Varaha Mihira extensively cites Gargya as authority. We find in chapter XIIth of his Samhita :—

1. "*Dhruva nāyaka upadeshāt . .. ...*
   *yasca aham............. kathayishye VRIDDHA-GARGA-MATĀT*"
2. "*Āsan Maghāsu munaya*
   *Shāsati prithvi Yudhisthire nripatau*
   *(Shad-dvi-panca-dvi)—yutah*
   *shaka kālānta-sca rājnasca*"
3. "*Eka ekasmin rikshe*
   *shatam shatam te caranti varshānām*
   *Prak udayato api avivashat*
   *rijun nayati tatra samyuktā*"

   The commentator adds (in his comments on Varahamihira),
   "*Tathā ca Briddha Gārgyā—*
   *Kali—dvapara—sandhau tu sthitaste pitridaivatam*
   *munayo dharma nirata*"

Usually, an astronomer links up this beginning with some important astronomical-cum-political event.

Thus, Aryabhatta wanted to link it with Manu who began his era in c.3070 ± 200 B C., *when equinox took place at Rohini.*

Similarly, Varaha Mihira wanted to make the beginning with equinox at Krittika Purnima—the epoch set up by king Bharata with the help of astronomers Dirghatamas & Viswamitra II. He arrived at 2,449 B.C. by back calculation. (How he arrived at this date is explained in the next section on Briddha Gargya).

Thus, the year 3,102 marks only an astronomical event and it does not indicate the Bharata battle. This is so because Kali means (in astronomy) the beginning of an era.

Three such Kalis (era beginnings) are known :

| | |
|---|---|
| Aryabhatta Kali (Manu Nabhanedistha) | 3,102 B.C. (Rohini Kali) |
| Varaha-Mihira Kali (Bharata—Gargya—Viswamitra) | —2,400 B.C. (Krittika Kali) |
| Yudhisthira Kali | —1,424 B.C. (Dhanistha Kali) |

Obviously, the Bharata battle could not have begun in these different epochs.

*There is yet another stronger argument : Puranakaras give a list of only about (29-39) kings from Parikshit to Buddha : Even taking the longest possible list, there are only 39 kings between Parikshit and Buddha. And therefore, it means a maximum possible time lag of only 1,092 years (@28 years per king. Buddha is known to be born in 624 B C. And, therefore, the earliest date of Bharata battle could be 1,716 B.C.*

This rules out decisively either 2,400 B.C., and *a fortiori*, 3,100 B.C. as the date of the Bharata battle.

**2,449 B.C.** (Group B)

Varahamihira sought to start a kali era from 2,449 B.C. and ascribed it to the tradition of Briddha Gargya. This was

Evidently, Varaha Mihira wanted to compute the date on which Krittika was at the head of Nakshatras i.e. when the equinox took place at Krittika.

Apparently, Varaha took the rate of precession 54" per year—*which was the only rate known and prevalent in ancient India.* He calculated thus:

| | | |
|---|---|---|
| Rohini | = | 60.18 |
| Krittika | = | 59.40 |
| Precession | = | 9.78 |

$$\text{Period} = \frac{9.78 \times 60 \times 60}{54} \text{ years}$$

$$= 1\,63 \times 20 \times 20 \text{ years}$$

$$= 652 \text{ years}$$

The epoch of Rohini equinox is taken by Indian astronomers to be 3,101 B.C.

Hence Krittika equinox was computed by Varaha to be :

3,101 B.C.
less 652 years

2,449 B C.

And, therefore, Varaha Mihira wanted to start his kali era viz. Krittika kali in 2,449 B.C. However, Aryabhatta's fame was so great that this kali was not accepted as the beginning of an era. As 2,449 B.C. is the result of a back calculation (on a wrong basis), it cannot be the date of Bharata war.

It is submitted that the above analysis answers those who (like P.C. Sengupta) seek to place Bharata in 2,449 B.C as the Briddha Gargya tradition (*An error in computation and its detection constitutes a stronger proof in arithmetic, than the reconciliation of a correct result).*

Moreover, as already pointed out, there are at most only 39 kings between Parikshit and Buddha, and, therefore, it is statistically impossible that Bharata battle took place earlier than 1716 B.C. (see p. 148 above)

The shloka (3) refers to the brilliant chronological hypothesis referred to above : "Name successive centuries by successive nakshatras" Assuming that Briddha Gargya started the hypothesis in 2,185 B.C., when he was about 100 years of age), we get :

| Nakshatra | Period |
|---|---|
| 1. Krittika | (2185—2085) B.C. |
| 2. Rohini | (2085—1985) B.C. |
| 6. Tishya | (1685—1585) B C. |
| 7. Ashresha | (1585—1485) B C. |
| 8. Magha | (1485—1385) B.C. |

Yudhisthira reigned in *c.*1424 B.C.; and, in the same year Parikshit was born after the Bharata battle. It was, therefore, the century of Magha : This is what the second shloka affirms.

Prateepa was born in c.1619 B.C. And, therefore, the Puranic tradition that he lived in Tishya nakshatra is found to be correct.

Incidentally, Garga (D.N. 49) was born in 2,303 B C. and, therefore, the credit for starting the Krittika-adi Nakshatra system goes perhaps not to him but to his immediate predecessors Dirghatamas (D.N 41) and Viswamitra II (D.N. 42).

Finally, it is necessary to find the significance of "Shad—Dvi—Panca—Dvi" years before Shaka-abda. (= 2526 years before shaka era).

It is obvious that Gargya, if he lived in c.2300 B.C. could neither have said that Yudhisthira ruled at Magha (for Yudhisthira ruled a thousand years later), nor give the shaka era—which came 2500 years later. Both these dates have been given by Varaha Mihira and he adopted Gargya's method (of showing 100 years for each nakshatra) to describe Yudhisthira era.

What then is 2,449 B.C. i.e. 2,526 years before Shaka era ? (Shaka era begins in 78 A.D. and, hence, 78—2526 A.D.=(—) 2448 A.D.=2449 B.C.

that when they are in Purva Asharha Nanda will begin to reign Now, as the seven Rishis, or stars of the Great Bear, are supposed to pass from one lunar asterism to another in 100 years, the interval between Parikshit and Nanda will be 1,000 years But in the Bhagavata Purana this interval is said to be 1,015 years, which added to 100 years, the duration of the reigns of the nine Nandas, will place the birth of Parikshit 1,115 years before the accession of Chandra Gupta in 315 B C, that is, in 1430 B C By this account the birth of Parikshit, the son of Arjuna, took place just six years before the Great War in B C 1,424 These dates, which are derived from two independent sources, mutually support each other, and therefore, seem to me to be more worthy of credit than any other Hindu dates of so remote a period"

After Cunningham, K P Jaiswal also proposed the date of 1424 B C, (vide JBRS—September, 1915, Vol I, Part I) Pusalkar has also computed the date of the Bharata battle at c 1450 B C, and it also seems that Dr R C Majumder, the doyen of Indian historians did not disagree with this view

We subscribe to this group, and our reasons have already been given We consider that astronomical, Puranic, and inscriptional material *definitely* points to this date That archaeological material—*particularly the recent find of late Harappan ware in juxtaposition with the Painted Grey Ware at Bhagwanpura, the heart of Kurukshetra*—is not discordant with this dating It is true that no firm cross-contact has so far been established—but this objection applies to the date of 950 B C as well The objections against the contending theories have already been given

**950 B.C.** (Group D)

The date of 950 B C was proposed by Pargiter H C Roychowdhury supported it and recently Lal following Roychowdhury has suggested the date of 834 B C

All these theories have been considered *in-extensio* in chapter II and need not be reiterated The readers are now in a position to judge its validity for themselves

**1,424 B C** (Group C)

The Puranas record the following traditions about the Bharata battle :—

a. 1,015 years (variant readings 1,050 yrs, 1,500 yrs) elapsed between the birth of Parikshit and the accession of Nanda.

b. The rikshas were in Magha at the time of Yudhisthira—Parikshit, but they had shifted to Purvaassadha at the time of Nanda.

c. The battle at the Syamantaka-Pancaka took place at the sandha of Dwapara-Kali.

d. Krishna and his sister Katyayanee were born in the 28th yuga.

The apparently confusing statements were made not because the Puranakaras laked any chronological system, but only because they had a plethora of them. (For a full discussion of the Pauranika chronologies and their reconciliation, please see A.I., pp. 141-151).

Among the modern workers, A Cunningham was the first to suggest that the date of Bharata battle was 1,424 B C.

He observed (see Archaeological Survey of India, 1st Report, Vol. I, 1862-65, p. 131).

"The date of the occupation of Indraprastha as a capital by Yudhisthira, may, as I believe, be attributed, with some confidence, to the latter half of the 15th century before Christ. The grounds on which I base this belief are as follows : 1st that certain positions of the planets, as recorded in the Mahabharata, are shown by Bentley to have taken place in 1424—25 B.C. who adds that "there is no other year, either before that period or since, in which they were so situated;" 2nd, in the Vishnu Purana it is stated that at the birth of Parikshit, the son of Arjuna Pandava, the seven Rishis were in Magha, and

# X

# In Search of the Original Mahabharata

The identification of the original Mahabharata (which the western scholars call the Ur-Mahabharata and the Indians call the Bharata samhita) is a *desideratum* of Indology (vide also part (II, p. 159). In this paper, some plausible lines of search will be indicated and the text will be isolated to a first approximation.

2. It is well known that the Mahabharata—as it is known today—consists in the main, of three layers, apart from the interpolations. According to the tradition borne out by the Mahabharata itself:—

1. The original Mahabharata—the Jaya[1] (Mangala-charana and 1.56 19) or the tale of the BATTLE AND VICTORY—was composed by Vyasa himself. It must have been the skeleton.

2. The main text was recited by Vaisampayana at the instance and in the presence of Vyasa himself [1.54, (21-22)] at the sarpastra, which, in reality, was the victory celebration of Janamejaya, the great-grandson of Arjuna, over the Takshaka Nagas. It must have been recited, latest within fifty years of the battle, because Janamejaya was in his teens (being just married)when the victory was celebrated and he was the son of Parikshit who was born within a year of the battle. This text—the Viasampayana recension—will be called the Bharata samhita or the Ur-

1. The references cited in the body are to the critical Edition of the Mahabharatha.

**To sum up :**

A) After examining all the arguments, the date of the Bharata battle is taken at about 1424 B.C. The full and correct expression is :

Date of the Bharata battle =
(1716, (1482, *1424*, 1280), 1088) B.C.

where

1. 1716—1088 B.C. represents the outer margin of possible dates.
2. 1482—1280 B.C. represents the inner margins : There are two margins—it being a case of compound probability.
3. The most probable date is 1424—1414 B C.

B)

1. The dates of 3100 B.C. and 2400 B.C. can be ruled out because only THIRTY-NINE kings are known between Parikshit and Buddha and hence these dates are impossible. To accept these dates would upset the entire world-chronology because the date of the inscriptions of Ashoka is established by cross contacts with foreign kings. This conclusively rules out these dates as being impossible.
2. The date of 950 B.C. is not accepted because of the reasons given extensively (and intensively) in the chapter II. The materials and the reasonings *pro et contra* being given in full, *the reader is invited to form his own opinion and adopt the date (or rather, the margin of dates) according to his own lights.*

cluded as class 'C' (vide para 5 *infra*) In other words, *one would expect current history—factual narration—of the life and times surrounding Vyasa in the Bharata samhita* In particular, the expected stress will be on the "tale of the battle and victory"

4 In this search, the method of successive approximations will be used and today, it is proposed to build a broad frame work of the Bharata samhita only as a first approximation If one could build such a broad structure, then the method of successive approximations could be applied thereon by making deeper and more detailed examination—which will ultimately require the individual examination of each shloka However, we are far from that ideal yet

5 In this preliminary study, the sections (i e the *sub parvans* made up of shlokas) will be the basic units of analysis They will be divided into THREE *prima facie* categories The first category will be marked 'A', and will denote the sections which are primary i e which *probably* belong to the Vaisampavana text of the Bharata samhita The category C' on the other hand, will exclude the such primary sections i e will comprise of the sections which probably did NOT belong to that text The category 'B' will belong to the doubtful class *One will therefore, have to first decide whether the sections as a whole (or the sub parvans) belong prima facie to one category or the other The proposed classification will necessarily be broad tentative and only a first approximation to begin with* It would be like looking at a temple facade from distance, in order to find the broad architectural features If one succeeds in building such a broad framework on correct lines, then *such a frame itself will suggest further lines of search*—just as it happens in working out the mathematical approximations

6 The search will be conducted as follows

1 The critical edition of the Mahabharata compiled by the Bhandarkar Institute, Poona (heremafter called the Crit Ed ) will naturally be used as the base of the attack It is conceded that there may be primary shlokas in the Northern recension or the Southern recension beyond the (Crit Ed ) *but the onus will be on him who so asserts*

Mahabharata which is the object of the present search.

3. The third recension was the text recited by Ugrashrava Sauti at the Naimisharanya conference of the sages (hereinafter called the Suta-text) [I 1.1.; 1.53.27 to 1.55.1]. As Ugrashrava was the son of Romaharshana who was a disciple of Vyasa and who had heard the recitation of Vaisampayana, the suta text would have been recited, say within 100 years of the battle at the latest This text is theoretically the Mahabharata and said to be made up of 100,000 shlokas [1.56.13]. It is, of course, quite possible that isolated (and even bulk) interpolations and alterations were made even into this Suta text.

The general tradition borne out by texts of the Mahabharata is that the Vaisampayana text was made up of about 24,000 shlokas [I.1.61; 1.56 32]. It is also said that this text did not contain the *Upa-akhyanas* (i.e. subsidiary tales and legends).

4 It is to be particularly kept in mind that the Mahabharata is technically called an ITIHASA. It is neither a *kavya* (which is made largely from imagination to arouse emotions : e g. the Ramayana) nor a *Purana* (=ancient). What the word *itihasa* technically means has been discussed already (vide chap. III); however, one may recapitulate some significant features thereof. Firstly, *Itihasa* is contrasted with the Purana[1] though both are of the same genus (viz. history) Secondly, the Mahabharata—the only *itihasa* known to ancient Indian literature—talks only of the life and times of Vyasa the author. Thirdly, *Itihasa-Puranam* was well known and highly respected in the contemporary texts of the Atharva-veda and the Upanishads. And, finally, *itihasa* is said to be derived as ITI-HA—ASA or "*verily, it so happened*" : It must, of necessity, relate to reality and facts. One, therefore, expects to find only facts and reality in an *itihasa,* and is also entitled to exclude the miraculous or the impossible (i.e. exaggeration beyond possibility) therefrom as later acretion. In this study, therefore, such narrations which are inherently improbable will be ex-

1. The phrase '*Itihasa-puranam*' is well known in contemporary texts : this shows that each word has a distinct meaning though they take their colour from each other (*noscitur a sociis*).

to the Bharata samhita is a key question, which will be exclusively dealt with separately : Only a (?) mark is put on the 700 shlokas of the Gita; *it is however included in the primary section.*

6. Finally, there are some un-numbered shlokas in the Crit. Ed. They have not been counted because they all obviously belong to the class 'C' and are here collectively marked merely as X. The total number of shlokas actually counted and herein analysed comes to 73,785 or say 74,000. As the category belonging to the class A only is our limited goal, the exact count of the category X (which all belong to the class C) is not necessary for the present.

7. The preliminary analysis will now be given in two tables. The Table I will give the analysis in the form of a tabular summary of the ninety five *'sub-parvans'* —The table II will give the summary thereof in terms of the eighteen *'parvas'*.

## TABLE I

Analysis of the sub-parvana of the critical edition of the Mahabharata

| No | Sub-parvan | A | B | C | Total |
|---|---|---|---|---|---|
| | **Prolegamena** | | | | |
| I. | 1. Anukramanika | — | — | 210 | |
| | 2. Parva-samgraha | — | — | 243 | |
| | 3. Pushya-— | — | — | 195 | |
| | 4. Pauloma | — | — | 150 | |
| | 5. Astika | — | — | 1,012 | |
| | 6. Adi-vamsa-avatarana | — | — | 482 | |
| | 7. Sambhava | — | — | — | |
| | Prolegamena | — | — | 2,292 | 2,292 |

2. (a) For the purpose of this study, the Mahabharata (Crit. Ed.) will be divided into two parts The first part will be called the Purva-Bharata; it will deal with the great war and end with Yudhisthira's triumphantal entry into the city of Hastinapur and the beginning of his reign (i.e. upto Shanti Parva XII-40). The second part will be called the Uttara Bharata and will contain the rest of the text. This natural division is made only for the facility of examination : its significance will unfold as the study goes on.

(b) The first part contains the prolegamena—viz. the *anukramanika* or the preface in the form of a frame story, the *parvasamgraha* or the detailed index, and the *kathapravesha* or introductory matter. It will be obviously convenient to keep this section (Adi I—(1-61) i.e. up to the *Adi-vamsa-avatarana parva*) separate, because it will need a separate analysis later on.

3. The study will be conducted in terms of the *sub-parvanas*. The Crit. Ed. contains 95 *sub-parvanas* (instead of the usual 100) and it will be shown that they form natural units which are very suitable for the present study. When the basic framework is tentatively agreed upon, the individual chapters of each *sub-parvan*, and, then, finally, the individual *shlokas* will be examined.

4. In this study, all the *upa akhyanas* (subsidiary tales and legends as well as the Puranic legends) will be classed as C. to begin with. This is sanctioned by Mahabharata tradition (I.1.61), and there is general agreement among the scholars that the *upa-akhyanas* were not there in the original Bharata-samhita (I. 1.61).

5. Similarly, all the didactic portions which give lectures on ethics of non-killing, morals and as well as the lectures which support the negative *weltanschauung* of the *munidhara* (i.e. the world denying asceticism and insistence on non-killing) will be classed as C. There is also a general consensus that these didactic portions perhaps did not belong to the original war story. In a tale of the battle and victory, lectures on asceticism or nonkilling is somewhat out of place. Whether the shlokas which justify the fratricide (viz. the Gita) belonged

| | No. | Section | | | | | Total |
|---|---|---|---|---|---|---|---|
| | 42 | Draupadi harana | | — | 233 | — | 1,014 |
| | | a Ramopakhyana= | 717 | | | | |
| | | b Savitri upakhyana= | 297 | | | | |
| | | | 1,014 | | | | |
| | 43 | Kundala aharana | | — | — | 294 | |
| | 44 | Araneya | | 191 | — | | |
| III | | VANA PARVA | | 1,079 | 327 | 8,941 | = 10,347 |
| IV | 45 | Vairata | | 282 | — | — | |
| | 46 | Kicaka badha | | 353 | — | — | |
| | 47 | Go-grahana | | — | 1,009 | — | |
| | 48 | Vaivahika | | 179 | — | — | |
| VI | | VIRATA PARVA | | 814 | 1,009 | — | 1,823 |
| V | 49. | Udyoga | | 575 | | | |
| | 50 | Sanjaya-yana | | 311 | — | — | |
| | 51 | Prajagara | | — | — | 541 | |
| | 52 | Sanatsujata | | — | — | 121 | |
| | 53 | Yana sandhi | | — | 726 | — | |
| | 54 | Bhagavad yana | | 1,670 | — | 384 | |
| | 55 | Karnopanivada | | 351 | — | — | |
| | 56 | Abhi niryana | | 169 | — | — | |
| | 57 | Bhisma abhisecana | | 126 | — | — | |
| | 58 | Uluka duta | | 100 | — | — | |
| | 59 | Ratha atiratha | | 231 | — | — | |
| | 60 | Amba upakhyana | | — | — | 755 | |
| V | | UDYOGA PARVA | | 3,533 | 726 | 1,801 | 6,060 |
| VI | 61. | Jambukhanda vinirmana | | 104 | — | 273 | |
| | 62 | Bhumi | | — | — | 381 | |
| | 63 | Bhagavad gita | | 700(?) | — | — | |
| | 64 | Bhisma badha | | 3 941 | — | — | |
| VI | | BHISMA PARVA | | 4,745 | — | 654 | 5 399 |
| VII | 65 | Drona abhisheka | | — | 634 | — | |
| | 66 | Samsaptaka | | 717 | — | — | |
| | 67 | Abhimanyu badha | | 643(?) | — | — | |
| | 68 | Pratijna | | 365 | — | — | |
| | 69 | Jaydratha badha | | 2,914(?) | — | — | |
| | 70 | Ghatotkaca badha | | — | 1,645(?) | — | |
| | 71 | Drona badha | | 692 | — | — | |
| | 72 | Narayana-astra moksha | | — | 542 | — | |
| VII | | DRONA PARVA | | 5,331 | 2,821 | | 8,152 |

*Continued Table I*

**Purva-Bharata**

| | | | | | |
|---|---|---|---|---|---|
| | 7. Sambhava | 1,452 | — | 816 | |
| | 8. Jatugriha-daha | 273 | — | — | |
| | 9. Hidimba-vadha | 111 | — | — | |
| | 10. Vaka-badha | 264 | — | — | |
| | 11. Citraratha | — | — | 544 | |
| | 12. Draupadi-swayamvara | 381 | — | — | |
| | 13. Vaivahika | 37 | — | — | |
| | 14. Vidura-agamana | — | — | 274 | |
| | 15. Rajya-labhya | 50 | — | — | |
| | 16. Arjuna-vanavasa | — | — | 295 | |
| | 17. Subhadra-harana | 57 | — | — | |
| | 18. Harana-harika | 82 | — | — | |
| | 19. Khandava-dahana | 344 | — | — | |
| | I. Sub-total | 3,051 | — | 1,929 | 4,980 |
| I. | ADI PARVA | 3,051 | — | 4,221 | 7,272 |
| II. | 20. Sabha | 110 | — | 243 | |
| | 21. Masra | 222 | — | — | |
| | 22. Jarasandha-badha | 195 | — | — | |
| | 23. Dig-vijaya | — | 191 | — | |
| | 24. Rajasuya | 72 | 25 | — | |
| | 25. Argha-abhiharana | 99 | — | — | |
| | 26. Shishupala-badha | 191 | — | — | |
| | 27. Dyuta | 734 | — | — | |
| | 28. Anu-dyuta | 268 | — | — | |
| | II. SABHA PARVA | 1,891 | 216 | 243 | 2,350 |
| III. | 29. Aranyaka | — | 327 | — | |
| | 30. Kirmira-badha | 75 | — | — | |
| | 31. Kairata | ? | ? | 1,148 | |
| | 32. Indraloka-abhigamana | — | — | 1,223 | |
| | 33 Tirtha-yatra | — | — | 2,418 | |
| | 34. Jatasura-badha | 61 | — | — | |
| | 35 Yaksha-yuddha | — | — | 727 | |
| | 36. Ajagara | — | — | 201 | |
| | 37. Markandeya-samasya | — | — | 1,695 | |
| | 38. Draupadi-Satyabhama | — | — | 88 | |
| | 39. Ghosha-yatra | 519 | — | — | |
| | 40. Mriga-Swapnabhaya | — | — | 16 | |
| | 41. Brihi-draunika | — | — | 117 | |

| | | | | |
|---|---|---|---|---|
| XVI 93 Mausala | 272 | — | — | 272 |
| XVII. 94. Maha-prasthana | 106 | — | — | 106 |
| XVIII 95. Swargarohana | — | — | 193 | 193 |
| UTTARA BHARATA | 553 | 1044 | 20,974 | |
| | | | | 22,263 |

## TABLE II

Critical edition of the Mahabharata
—a preliminary analysis

| Parvas | A | B | C | Total |
|---|---|---|---|---|
| **Prolegamina** | | | | |
| I Adiparva (1-123) | — | — | 2,292 | 2,292 |
| **Purva-Bharata** | | | | |
| I. Adiparva (124- | 3,051 | — | 1,929 | 4,980 |
| II. Sabhaparva | 1 891 | 216 | 243 | 2,350 |
| III. Vanaparva | 1,079 | 327 | 8,941 | 10 347 |
| IV. Virataparva | 814 | 1,009 | — | 1,823 |
| V. Udyogaparva | 3,533 | 726 | 1,801 | 6,060 |
| VI. Bhismaparva | 4,745 | — | 654 | 5,399 |
| VII. Dronaparva | 5 331 | 2,821 | — | 8.152 |
| VIII. Karnaparva | 3,041 | 577 | — | 3,618 |
| IX. Shalyaparva | 2,053 | — | 1,261 | 3,314 |
| X Sauptikaparva | 771 | — | — | 771 |
| XI. Striparva | 730 | — | — | 730 |
| XII. Shantiparva (1-14 : 38-40) | 533 | — | 845 | 1,378 |
| Purva Bharata | 27,572 | 5,676 | 15,674 | 48,922 |
| **Uttara-Bharata** | | | | |
| XII. Shantiparva (41- | — | — | 11,641 | 11,641 |
| XIII. Anushasanaparva | 84 | — | 6,439 | 6,523 |
| XIV. Ashwamedhaparva | — | 308 | 2,467 | 2,775 |
| XV. Ashramavasikaparva | 91 | 736 | 234 | 1,061 |
| XVI. Mausalaparva | 272 | — | — | 272 |
| XVII. Mahaprasthanaparva | 106 | — | — | 106 |
| XVIII. Swargarohanaparva | — | — | 193 | 193 |
| Uttara-Bharata | 553 | 1,044 | 20,974 | 22,571 |
| Mahabharata | 28,125 | 6,720 | 38,940 | 73,785 |

*Continued Table I*

| | | | | |
|---|---|---|---|---|
| VIII. 73. KARNA PARVA | 3.041 | 577 | | 3,618 |
| IX. 74. Shalya-badha | 844 | — | — | |
| 75 Hrada-Pravesha | 664 | — | — | |
| 76. Tirtha-yatra | — | — | 1,261(?) | |
| 77. Gada-yuddha | 545 | — | — | |
| IX. SHALYA PARVA | 2,053 | — | 1,261 | 3,314 |
| X. 78. Sauptika | 514 | — | — | |
| 79. Aishika | 257(?) | — | — | |
| X SAUPTIKA PARVA | 771 | — | — | 771 |
| XI. 80. Vishoka | 194 | — | — | |
| 81. Striparva | 468 | — | — | |
| 82. Sraddha | 44 | — | — | |
| 84. Jalapradanika | 24 | — | — | |
| XI. STRI PARVA | 730 | — | — | 730 |
| XII 85. (1 14) (38-40) Triumphantal entry into Hastinapur | 533 | — | 845 | 1,378 |

**Uttara-Bharata**

| | | | | |
|---|---|---|---|---|
| XII. 84. Raja-dharma (41-128) | — | — | 3,123 | |
| 85. Apad-dharma | — | — | 1,560 | |
| 86. Moksha-dharma | — | — | 6,958 | |
| XII. SHANTI PARVA | — | — | 11 641 = | 11,641 |
| XIII. 87. Dana-dharma | — | — | 6,439 | |
| 88. Bhisma-swargarohana | 84 | — | — | |
| XIII ANUSHASANA PARVA | 84 | — | 6,439 = | 6,523 |
| XIV. 89 Ashwamedhika | — | 303(?) | 2,467 | 2,775 |
| XV. 90. Ashrama-vasika | — | 736 | — | |
| 91. Putra-darshana | — | — | 234 | |
| 92. Narada-acamana | 91 | — | — | |
| XV. ASHRAMA VASIKA | 91 | 736 | 234 | 1,061 |

6. The Mahabharata is found to be an *itihasa*[2] of WAR AND PEACE. The first part describes the war, while the second part describes the peace. The Uttara Bharata is basically and structurally made up of Dharma (Law) and Anushasana (Order) and deals with the problem of Law and Order in the kingdom won. The Uttara Bharata is a *rechts-buch*[5] as Dahlman correctly proposed.

7. The more important consideration for our purpose is the fact that the tone and purpose of the two books are quite distinct and different : The poetic and the historical value of the two books are also substantially different.

8. Finally, such duets of Purva and Uttara are quite common in Indian literature. Kalidasa's Purva-Megha and Uttara-megha, as well as Kumara-sambhava furnish other examples. The Uttarakanda of the epic Ramayana is said to be made up by a different hand. Similarly, Vanabhatta's Kadambari is said to be composed separately by the father and the son Finally, Purva-Mimansa and Uttara-Mimansa are two Vedic texts which were never united.

9. It is, therefore, tempting to consider that the Purva Bharata is the Bharata samhita delivered by Vaisampayana, while Uttara Bharata, the Prolegamena and the bulk of the Vanaparva (which, incidentally, has an obviously Puranic look) is the handiwork Ugrashrava Sauti And finally, that the *Bharata* became the Mahabharata (or the larger Bharata), when the Uttara Bharata was added to it by the Pauranika Sutas under the guidance of Bhargava, Shaunaka. How far this suggestion is viable as well as the date of composition of the Bharata Samhita will form the subject matter of a subsequent fine-structure study. It is only pointed out that the Mahabharata was known to Ashwalayana; to Panini; and also to Buddha (as *Itihasa pancamanam*).

**II Importance of the subject**

As the importance of the subject under discussion is already

2. That is was written in verses is irrelevant. All books (even on astronomy, medicine) was written in verses for facility of memorising. Suryasiddhanta is not *a Larya*.

Comments :

1. The Prolegamena shows :

| A | B | C | Total |
|---|---|---|---|
| — | — | 2,292 | 2,292 |

Thus, the bulk of the prolegamena is to be excluded.

2. The Purva Bharata shows :

| | | | | |
|---|---|---|---|---|
| Purva Bharata | 27,572 | 5,676 | 15,674 | 48,922 |
| (Vana parva | 1,079 | 327 | 8,941 | 10,347) |

3. The Vanaparva (which is largely made up of tales and legends) is seen to contain mostly the class C. On the other hand, *the rest of the Purva Bharata is largely made up of class A.* The Purva-Bharata gives the story of the war and victory

4. The Uttara Bharata shows :

| A | B | C | Total |
|---|---|---|---|
| 553 | 1,044 | 20,974 | 22,571 |

It is thus clear, that the Uttara Bharata is largely made up of didactic material of the class C.

5. In other words, the classification of Purva Bharata and Uttara Bharata (viz. the first part and the second part—which was made only for convenience of analysis) *is seen to have some deeper significance.*

| | A | B | C | Total |
|---|---|---|---|---|
| Prolegamena | — | — | 2,292+X | 2,292 |
| Purva-Baharata | 27,572 | 5,676 | 15,674+X | 48,922 |
| Uttara-Bharata | 553 | 1,044 | 20,974+X | 22,571 |
| Maha-Bharata[1] | 28,125 | 6,720 | 38,940+X | 73,785 |

1. As the number of shlokas in the Vaisampayana text is expected to be about 24,000 (1.1,61), the first approximation of 28, 125 is not unreasonable.

well known, a brief recapitulation of the salient points would be sufficient.

1. Vaisampayana recited his text (viz. the Bharata samhita) within 50 years of the battle at the latest (vide 2.3 *supra*). If the text could be recovered, it would give a contemporaneous account of the political conditions and upheavals at the time of the Bharata battle It will be a genuine authentic account of the pre-Buddhistic (but late-Vedic) India. The importance of such an account for the protohistoric India would be immense.

2. It is known that Yajnavalkya was a contemporary of the Pandavas[6]. His Shukla Yajurveda (i.e. the *Vajasaneyi samhita*) was a contemporary composition. In the *Purusha-medha* narration (SH. YAJ, XXX) of this text, is given a complete enumeration of all the professions, avocations and callings of the people. It will give a vivid contemporary picture of the society (not merely of the priests and the kings, but of *all* classes of people).

3. Dr. Ramgopal has given an analysis of the *kalpasutras*,[7] and has extracted a thorough description of the customs and rituals prevalent among the twice born i.e, the upper classes The earlier *kalpasutras* especially those of Baudhayana and Ashwalayana were certainly composed within two hundred years (at the latest) of the battle.[8] These would furnish another independent source

4 Finally, a vivid portrait of 'India, as known to Panini' is available through the work of V.S. Agarwal. Panini was a contemporary of the Vedic Katyayana according to Thieme. Hence he must have lived within say, a hundred years of the Bharata battle His sutras would therefore, furnish another valuable source of contemporary life.

Thus, one would have four *independent* sources describing India at the time of the Bharata battle or just thereafter as follows :—

1 *Bharata samhita of Vaisampayana* (Political history giving particular emphasis on the Kshatriyas well as the Brahmanas

well known, a brief recapitulation of the salient points would be sufficient.

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any written evidence of an earlier inscription The interpolations themselves also will be of great interest and significance. They will give the names of the kingdoms and political changes from the Battle to Buddha—a picture which is not available from anywhere else For instance, they will reveal the names of the Janapadas, and republics, with grew when the kings were killed in that internecine battle

The task of recovering the text 'A' will undoubtedly *involve prodigious labour but such labour will amply repay* itself

It is clear that Max Mueller's *ipsi dixit*—"All works in continuous anushtubha shloka was composed *after* 200 B.C." is neither here not there. It has done more damage to Indian chronology than any other opinion : The sooner it is totally forgotten the better for scientific Indology. Here one finds the effect of chronological ankylosis at its worst.

The text 'A' will give the history of India prior to the Buddha, and its evidence will be reliable *prima facie* i.e. it will be accepted unless controverted by written evidence of earlier inscriptions.

The identification, isolation and extraction of the Vaisampayana text from the extant Mahabharata (or the bigger Bharata) is, therefore, a crucial desideratum : Even a partial solution of the problem would be welcome.

The thesis that the 'Bharata' (i.e., the Bharata samhita) is the history of the battle is not new; on the other hand, it is well known since the time of Panini, who lived perhaps within a century of the battle. R.C. Majumdar, the doyen of the Indian historians, has put the matter thus :

"The proper meaning of the word Mahabharata is the great battle. For, according to Panini (IV.2.56), Bharata means the battle of the Bharatas *(Bharatah sngrama)* and in the Mahabharata itself we find *Mahabharatayuddha* (XIV. 81.8) 'the great Bharata battle', and *Mahabharataakhyanam* (I.62.39) 'the great story of the Bharata battle', the title Mahabharata being an abbreviation of the latter". (*Mahabharata*, myth and reality, p. 176 : Winternitz, HIL, p. 317).

The Ur-Mahabharata is, therefore, likely to be the text 'A' proposed above.

**Conclusion**

The text 'A' when recovered and purified of interpolations will give the history of India at the time of the battle i.e., a few centuries before the Buddha. Its evidence will be reliable *prima facie* i.e., it will be accepted unless controverted by

it is merely an aquiescence to the theory of the philologists that the first hymn of the Rigveda=1500 B.C. (Mueller's opinion as modified by Macdonell).

However, the general trend of the archaeological opinion is that the end of the Harappa Culture came somewhere during 2000—1500 B.C. (Kedarnath Shastri has specifically said on the archaeological evidence alone that the end came in c.2000—1900 B.C.)

"Beginning of the second millenium B.C." (p. 75, 77) and "end of third millenium B.C." p. 90; New Light on Indus civilization[1].

(For the radio-carbon dates see[2])

There is definite evidence of cross-contacts between Harappan and Mesopotamians through their seals and other artefacts. Wheeler[3] says (p. 78)

> "The fixed point in the chronology of the Harappa culture is that, in characteristic phase, it was in contact with Sumer in and about the time of Sargon of Agade (AKKAD), now dated to c.2350 B.C."

This is a firm date and it is very likely that there were earlier contacts viz. in the Early Dynastic III Period. However, we are not concerned with the earlier contacts for the present, because our investigation concerns the end of the Harappan culture and not the beginning thereof.

Buchanan[5] has shown that there is a seal firmly dateable to c.1923 B.C. (tenth year of reign of king Gungunum) found at Larsa. Hence, *the earliest date for the end of the Harappan civilization would be say,* 1923 B.C.

**3. (2) Aryan invasion and archaeology**

Where Aryan invasion is concerned (which for the present analysis should be kept quite distinct from the end of the Harappan culture), the archaeologists fall more promptly into the same error of declaring 1500 B.C. to be the date of the Aryan invasion little realising that it is only the philologist's

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main physical types. The tall, fair-skinned, long-nosed and often handsome type is chiefly found in northern India among the upper Hindu castes and the Muhamedans .. The tall, fair people, as has been said, clearly are descended from immigrants from the north-west, belonging to diverse races, who resembled more or less the Afghans of the border, the Persians, and the Turks of Central Asia. No man can tell when such people began to pour into the tempting plains of India, but the process certainly was going on several thousand years ago and continued with intervals on a large scale until the sixteenth century...

"*The Indo-Aryans.* The earliest invaders or settlers about whom anything at all definite is known were the people of the Rigveda hymns, who called themselves Aryans, and are conveniently designated as Indo-Aryans in order to distinguish them from their brethren who remained on the other side of the passes. They were akin to the Iranians or Persians, who also called themselves Arvans. It is certain that they slowly worked their way across the Punjab and down the courses of the Indus and Ganges...

"The Indo-Aryan movement must have continued for a long time The guesses of some of the best European scholars place it somewhere between 2400 and 1500 B.C. but they are only guesses, and no near approach to accuracy is possible. *Perhaps 2000 B.C. may be taken as a mean date.*

**Foot note :** Professor Macdonell inclines to later dates and suggests 1500 B C. as the earliest limit for Vedic literature. *The estimates which assume considerably earlier dates seem to be more probable.*"

**To sum up :**

1. End of Harappan culture (Buchanan—seal at Larsa) 1,923 B.C. i.e. 1920 (±20) B C.
2. Aryan invasion (Piggot—thick ash layers)—2,000 (±100) B C.
3. Historian's view (V. Smith) of Aryan infiltration —2,000 (±500) B.C.

1500 B.C. or some other date in between ?

2. What was the date (or rather, the period) of the Aryan invasion ?

3. What was the period of composition of the hymns relating to the Vedic-Harappan war ?

It is very necessary to keep the three problems distinct and separate : Only confusion will result, if the conclusions of one line of enquiry is foisted on the other. Wheeler[1] posed the problem as follows :

*p. 18.* "The suggestion has indeed been made, very hesitantly (Childe) that the Cemetery H intruders 'may belong to the Aryan invaders', the conventional date for whose first incursion into India is the fifteenth century B.C. *And here the risk which Indian archaeology is always ready to run in search for a literary context lies once more across our path.*"

'Nor am I altogether disinclined to face the risk .'

Wheeler rightly issued the warning, yet he sticks to the '*conventional*' date of 1500 B.C none-the-less. However, it is to be carefully noticed that "1500 B.C.", according to Wheeler represents only a conventional date : Nothing more. *The factual date is yet to be determined.*

The three problems, therefore, have to be kept separate very carefully. The three lines of enquiry may lead to a common date but yet the dates *must* be determined independently and individually : and an approximate synchronism is required to be established before they are identified and it is held they are the different facets of the same event.

### 3. (1) End of Harappa and archaeology

It is a fact to be carefully noted that the archaeologists are as yet unable to give a firm date bracket for the end of the Harappan civilization on the basis of archaeological material alone. Different authorities give different dates ranging from 1500 B.C. to 2000 B.C. Further, it is reiterated that the date of 1500 B.C. is NOT an archaeologists' determination at all, but

If the end of the Harappan civilization is due to the Vedic invaders, then, taking the archaeological material alone (i e keeping aside the *ipse dixit* of the philologists for the time being), the date of the hymns would be (2000—1900) B C —if they are contemporary of the events

4 **Rigveda** (Philologists' view)

The date 1500 B C arises not from any scientific data, material or method but from an opinion expressed in 1870 by Max Mueller in his book History of Ancient Sanskrit Literature' (=HASL) Max Mueller laid down the following dates

| | | |
|---|---|---|
| 1 | Chandas | —1200—1000 B C |
| 2 | Mantras | —1000—800 B C |
| 3 | Brahmanas (Upanishad) | —800—600 B C |
| 4 | Sutras | —600—200 B C |
| 5 | Works in continuous shlokas | after 200 B C |

The frame has been examined at length and found wanting[9] Briefly, it is subjective and based on no material at all No scholar accepts it today but the philologists are reluctant to give it up because of *ankylosis*' They compromise by taking the date of the earliest hymn at 1500 B C (Macdonell) It is then said that this represents the date of the Aryan invasion into India As Wheeler emphatically said this has become the firmly fixed 'convention' The factual date behind the convention is to be found now

The solution is to scientifically examine each hymn which is alleged to show the conflict between the Vedic people and the non Vedic people and to date them individually, if possible in terms of the *rishis* (bards) who composed them

The hymns which need an intensive examination are as follows

Barhaspatya Bharadwaja R V 6 27
Shakti and Parashara Vasishthas R V 7 (18 33 83)

view of the date of the early Vedic hymns : as Sir Mortimer Wheeler[6] has said 1500 B.C. is the *'conventional'* date of the beginning of Veda and, *therefore*, it is also only the conventional date of the Aryan invasion.

Among the archaeologists, only Piggot[7] had an independent approach. He has made the most careful analysis of the archaeological evidence of large scale destruction caused by fire : Having investigated the mounds in southern and northern Baluchistan and Sind, he comes to the conclusion that everywhere there is a thick ash deposit signifying burning on a large scale (at Rana Ghundai, Nal, Sohr Damb, Dabar Kot, in Baluchistan; at Channu Daro, Jhukar, Lohumjodaro). It is also known that skeletons were lying scattered, in the streets of Mohenjo-daro itself—a probable sign of a violent end.

**Piggot dates all these signs of troubles in and around 2000 B.C.**

We agree with his careful analysis—independent of the Vedic confusion and accept his archaeological finding based on cultural parallels in Iran and elsewhere that the date of the extensive destruction (probably signifying the Aryan invasion)—in and around 2000 B.C. Only a slight modification will be made in the format of presentation for the sake of clarity.

An archaeologist's valuation of a date is *always an estimate.* Piggot has, therefore, only given charts (very rightly too). I would put his estimate in numbers and would say that the archaeological evidence of thick ash deposits suggests that there was extensive destruction and burning of villages in 2000—1900 B.C. I am sure that it is a faithful transcription of Piggot's chronological Charts (pp. 65, 243 *Prehistoric India).*

**3 (3) Historian's view**

It is necessary to give a historian's view about the matter. Vincent Smith[8] gives his opinion as follows :

"When India as a whole is looked at broadly, without theorizing, anybody can see that the population comprises two

## 5 Relative Chronology

Before taking up the problem of the absolute dates, one must set up a satisfactory relative chronology This is proposed to be solved by the use of the *dynastic numbers* [11]

The dynastic number (herein after called D N for short) of a king is defined to be the serial number given to him by Pargiter in his tables pp 144 149 (AIHT) Any two persons born within twenty years of each other will be called iso chronous and shall have the same dynastic numbers Persons will be called contempo aries if both were living together, and, of them the person with a higher dynastic number will be the junior contemporary?

By the use of this simple tool, a semi quantitative description of relative chronology could be accurately given, and anachronisms avoided Thus, Sita's father Seeradhwaja Janaka (D N 64) cannot be identified with Janaka of the Upanishads (D N 94), because they were separated by thirty generations Yet, Roychowdhury committed this error because he never used any dynastic number

Wheeler has correlated the destruction of the Harappan citadels (in our opinion again rightly) with the destruction of the forts of Shambara by Divodasa Fortunately, Divodasa (D N 63) appears both in the Puranas as well as in the Rigveda, and a complete analysis of his dynasty is available in Pargiter's tables The dynastic numbers of the family run from 63 to 68 and a table of relevant kings and rishis of the period can be drawn up by compounding the king lists (pp 145-6, AIHT) and the rishi lists (pp 193) The compound list is given below

| Dynastic number | Kings (Divodasa) dynasty | Other kings | Rishis |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 62 | Vadhryasva | Raghu | |
| 63 | Divodasa | Shambara, Aja | Kutusuti |

| | | |
|---|---|---|
| Kakshivan Ausija | : | R.V. 1, (116-126); in ] *116, 117, 119, 222 and 126* |
| Vamadeva Gautama | : | R.V. 4. (1-58), in parti 17, 26 and 30. |
| Shyavashwa Atreya | : | R.V. 5. (52-61), in par 52, 53, 61. |
| Savya Angirasa | : | R.V. 1. (51-57) *in pa* 51, 53, 54. |
| Parucchepa Daivodasi | : | R.V. 1. (127-139), in p 130, 131. |
| Kurusuti Kanva | | R.V. 8. (77-78). |

The importance of these hymns arises as follows

1. a. Some of them are battle hymns i.e. they witness account of the battles (e.g., R.V. VII. 18 the *dasarajana* battle).

b. Most of them are *dana-stuti* hymns which v posed just after a great battle, when victory was b brated and thanks were offered to Indra, the god of The format of a *dana-stuti* was 'Indra smote ... for and the king was pleased to give (home, coes, wom the bard". They could be also seen as a distributio and war-spoils and philosophically are not edifyin However, their historical value is immense because verbatim contemporary reports of the incidents.

2. Naturally, Pargiter has closely examined t effected synchronisms of the bards with the Pura wherever possible. All that is necessary now, is to rea lists—of the list of kings given at pp. 144-149 of I Ancient Indian Historical Traditions (=AIHT) a rishis given at pp. 191-2 *together*—and then to dra priate inferences.

It is well known that the Vedic hymns were k from the times that Shaunaka, Ashwalayana and K prepared their indexes (c.1320 B.C.) : Not even half

foreign kings provide the only scientific material available so far for such a purpose and they will both be used presently *All the attempts at Vedic chronology made so far suffer from this vital defect viz that no attempt has been made to convert the relative chronology into absolute chronology by the proper use of such scientific material* In this study, both astronomy and cross contacts will be used for locating the absolute dates

However, before an attempt is made to arrive at absolute dating, such facts as are available in the Rigveda and which could be described in terms of the mechanism of the dynastic numbers (thus giving synchronisms and relative chronology), will be discussed now They will remain true whatever the absolute dates may be

**Three Vedic periods** The entire Veda could be conveniently divided into *three* broad chronological divisions as follows

**Early Vedic age** D N 1 to D N 62 i e the hymns (if any[1]) composed by Rishis having these dynastic numbers will belong to the division now called Early Vedic Age

**Middle Vedic age** D N 63 to D N 68

**Late Vedic age** · D N 69 to D N 96

At present, this is purely a convenient (and mechanical) descriptive tool, its significance will unfold itself as the study goes on In this study, the middle Vedic age will be minutely examined, because of its immense significance in world chronology, and, therefore, it is of utmost importance to find out, the locale of the Vedic people, during the middle vedic period (defined above as D N 63 to D N 68) *from the hymns themselves* The problem can be partly solved by the hymns of Shyavashwa Atreya who belongs to this period (D N is 64) because he extensively described the rivers crossed by Atreya storm troopers

## 6 Vedic geography[12]

The hymns R V 5(52, 53 and 61) by Shyavashwa Atreya

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| 64. | Mitrayu Indrota | Dasaratha, Siradhwaja | Shyavashwa Atreya |
| 65. | Soma | Rama, Ravana, Sita | Kakshivan Ausija, Vamadeva, Paruc-chepa, Prastoka Sarn-jaya, Savya, Kutsa, Priyamadha (Angirasa) |
| 66. | Srinjaya | Turvasha | Barhaspatya Bharadwaja |
| 67. | Cyavana | Varashikha | Shakti and Parashara (Vasishthas), |
| 68. | Sudasa | | Viswamitra IV, Sindhukshit s/o (?) Priyamedha |

***(The dynastic numbers of the rishis are correct to $\pm 2$ only).***

The dynastic numbers given here can be used to check the chronological correctness of statements made in any ancient literature. Thus, in the Ramayana of Valmiki, Manthara, a Gandharva girl (Ved : Gandhari), reminds Kekayi that king Dasaratha had fought in the Devasura war as an ally of Divodasa against the Rakshasa king Timidhwaja [12] The dynastic number of Dasaratha is 64, while that of Divodasa is 63; hence, the statement is not anachronistic. Further, it follows that the Deva-asura war is a historic war in which human kings fought each other because Dasaratha was a historical personality. A Gandhari girl Romasha (highly sexy and, therefore, human!) is indeed mentiond in a hymn of the Rigveda (R.V. 1. 116) along with Dasaratha by the contemporary rishi Kakshivan (D.N. 65). Thus, Rigveda and Ramayana are in tune, at least, on these points of facts.

To convert the above table of relative chronology into a table of absolute dates—*some other facts are needed.* Astronomical observations on equinoxes and cross contacts with dated

hymn the Aryans had reached and settled in Ganga To be more specific, the Vedic people were still mainly on the west of Indus when D N 64 composed in the hymn i e *it was the age of transition into India*, as the following pages would show

An interesting feature of these hymns may now be noticed The hymns R V. 5(52-60) are on the Maruts and the hymn 61 also contains references to the Maruts They are very early hymns on the *Marut-gana* i e , the troops of the Maruts The most notable feature is that they are intensely anthropomorphic and the hymns vividly describe the troops—their dress and armour An unwary reader not acquainted with the theories on Vedic deities would probably take them for human troops compared to storm, and it is possible that Shyavashwa was describing the movements of human storm troopers In short, it is possible that when these hymns were composed by Shyavashwa, the Maruts were not yet fully deified but they were fast-moving crack human armies of the Atreyas

Another interesting feature is that in the hymn R V 5 53 9, the rivers are enumerated broadly in the direction of north (west) to south (east) This suggests a corresponding north-south movement of the human troops and the rivers encountered in their path With Sindhukshita (D N 68?) however, Ganga is the first river, suggesting that the Aryans had been naturalised in India by then

## 7 Original home of the Divodasa dynasty

In this article, the important dynasty is that of the Divodasa and his people Two names of the dynasty are of particular interest viz, Srinjaya and Soma They are possibly eponyms—giving rise to the tribes of Srinjayas and Somakas *These are the ancient names of the Pancalas according to the earlier portions of the Mahabharata* Their *place* was probably called *uttara-Panchala* like *uttara Kuru*

The locale of these Srinjayas has now been established All authorities agree that they were the Zarenk is or Zaranjes mentioned by Daraiyus (c 500 B C.), Herodotus and others (see Keith, Vedic Index) Further, they are known to have lived

(D.N. 64) mention several rivers. They are as follows :

R.V. V. 53.9 mentions the rivers Rasa, Anitabha, Kubha, Krumu, Sindhu and Sarayu.

Rasa has been identified as the river Jaxtartes (Syr Dariya) in Turan (i e. South Russia). Kubha (Kabul R.) and Krumu (Kurram R.) are western tributaries of the river Indus and are situated in modern Afghanistan i.e. the Vedic Gandhara.

Sindhu is the Indian river Indus.

Sarayu in the context of the present enumeration, is probably the Iranian river Horayu and not the river Sarayu of eastern U.P.

Parushni (R.V. 5 52.9) is the river Ravi of the Punjab.

Gomati (R.V. 5.61) has been identified as the river Gomal of Baluchistan. (see maps by Pargiter (AIHT) and Keith (Vedic Index).

Yamuna (R.V. 5.52.17) appears to be the modern Yamuna flowing past Delhi, marking perhaps the eastern limit of Aryana.

The habitat of the Vedic people when Shyavashwa (D.N. 64) composed the hymn was, therefore, *Turan, Iran, Gandhara (Afghanistan) and the Indus region, and,* perhaps, India up to the river Yamuna.

The word Urmya in (R.V. 5.61.17) has been taken to mean 'night', but, in the context of the flowing waters it could be Urmiya i.e., the lake Urmiya : It is in vocative case, and either meaning is possible.

In other words, for D.N. 64, the whole of Aryana—from Zagrus Mountains in the west to Jamuna in the east, and from Turan in the north to the Arabian seas in the south was the Vedic land. The later *nadi-stuti* R.V. X.75 by Sindhukshita, the son (?) of Priyamedha, describes the rivers of Punjab and also Ganga and, therefore, it could be said that when Shyavashwa (D.N. 64) wrote, the invasion was not complete but it was in the offing : when Sindhukhsita (D.N. 68?) wrote his

tion for the general student, who is apt to regard the labour expended on the disentanglement of perplexing and contradictory mazes of fiction, as leading only to the substitution of vague and dry probabilities for poetical albeit extravagant, fable. But the moment any name or event turns up in the course of such speculations, offering a plausible point of connection between the legends of India and the rational histories of Greece and Rome,—a collection between the fortunes of an eastern and a western hero,—forthwith a speedy and spreading interest is excited, which cannot be satisfied until the subject is thoroughly sifted by the examination of all the ancient works, western and eastern that can throw concurrent light on the matter at issue. Such was the engrossing interest which attracted the identifications of Sandrcottas with Chandragupta, in the days of Sir Wm. Jones : such was tne ardour with which Sanskrit was studied, and is still studied, by philologists at home, after it was discovered to bear an intimate relation to the classical languages of ancient Europe".

Such was the absorbing interest which was roused when Prinsep himself found *'Antioka, the Yona raja'*, in the edicts of Ashoka : In fact it is still a beacon of Indian chronology.

In the following studies on the Rigveda, similar connections are sought to be established between the Rigvedic people and the peoples of Harappa, Iran, Turan and even Babylon in the fateful years of 2000—1900 B.C., when there was a sudden outburst of the Aryans in the ancient world-stage—an outburst which changed the course of history.

**Rigveda**[15]

The hymns of the Rigveda will now be individually considered. The battle hymns and the *danastuti* hymns relate mostly to the Divodasa dynasty and it is recalled that they stand chronologically as follows[16] :

| | Date of birth |
|---|---|
| 63. Divodasa | 2,051 B.C. |
| 64. Mitrayu, Indrota. | 2,033 B.C. |
| 65. Soma | 2,015 B.C. |

in the Helmund region of Iran which contains the early Vedic Saraswati known by the Gathic name of Harahvaiti.

Two movements of the Aryans are thus discernible : the first is the southward move of the storm-troopers of the Atreyas (the Maruts) starting from the Jaxtartes region (uttara-Kuru?); the second is the invasion of the Srinjayas and Bharadwajas (the Divodasa dynasty) from the Harahvaiti region (the Helmund). Two other important movements through the southern routes (Bolan pass and the Makran coast) are known. The first may be compendeously called Parashu Rama invasions or the *'twenty-one'* invasions of the battle-axe people (=Parashus); the second is invasion of the Horayu people or the Raghus. They are however not found in the extant Rigveda but in other literature and, therefore, will not be considered here.

It is important to remember that all these invasions—both by the northern route as well as by the southern route—took place during D.N. 63 to D.N. 68 i.e. in about a hundred years of 2000—1900 B.C.

**8. Vedic cross contacts**

The hymns of the Rigveda composed during this period (i.e. by the bards having the D.N. 63-68) will now be considered. The present analysis as well as the astronomical dating suggest the date bracket of 2000—1900 B.C. and, therefore, the hymns will be scanned particularly to see if they reveal any cross contacts with the dated kings of Iran and West Asia of this period. If such cross-contacts could be established then the vexed problem of the Vedic chronology of the middle period (D.N. 63-68) would be satisfactorily settled.

A cross contact with a foreign civilization is the most illuminating experience of the student, and James Prinsep[14] after he found *"Antioka, the Yona raja"* in Asokan edicts rapturously expressed himself thus :

"As long as the study of the Indian antiquities confines itself to the illustrations of Indian history, it possesses little attrac-

lives when the granary was attacked As the attack was from the east, the dynasty had already the control of the land to the east of the city—presumably up to the river Yamuna which is frequently mentioned

Cyamana was born in c 1979 B C and, therefore, the battle of Hariyupia could be dated to say, 1940 B C

**8. 2 Srinjaya (R V 6 27 by Bharadwaja)**

The verse says that the Turvashas were smitten by Srinjaya Max Mueller[17] has identified Tur-Vashas as Tur-anians (root-*Tur*) Srinjaya himself does not appear on the Indian scene and presumably he remained on the trans-Indus side in Gandhara or Zarenka (i e Zranjia in Iran) The family tree is

| **Puranic** | **Gathic** |
|---|---|
| Mitrayu | Mihrav (Mitra=Mihira) |
| Soma | Saum |
| Srinjaya | (?) |

It would, therefore, appear that herein lies the germ of Rustam Saga of Iran [18] Rustama *(Ruc-tama)* is obviously a Vedic name The hypothesis is not anachronistic as shown below

**8 3 Sushravas (=Hushrava): (R.V. 1 53 by (Savya Angirasa)**

Savya Angirasa mentions Sushravas in the hymns 1 53 9 and 1 53 10 He mentions that Divodasa Atithigva entered into an alliance with the *youthful* Subshravas

Sushravas was identified as the Gathic Hushrava[19] by Prinsep, as well as Weber, Warren and Warren accept it The Indian scholars agree

Hence, Hushrava was a junior contemporary of Divodasa and his dynastic number was say, 66

**8 4. Ishtashwa (=Vistaspa) (R V 1 122 by Kakshivan Ausija)**

Kakshivan Ausija (D N 65) says arrogantly in the hymn R V 1.122 13

| | |
|---|---|
| 66. Srinjaya | 1,997 B.C. |
| 67. Cyavana (Cayamana). | 1,979 B.C. |
| 68. Sudasa | 1,961 B.C. |

The dates are given according to the astronomical chronology (vide S.B. Roy, Chronological Infrastructure of the Indian Protohistory, JBRS, vol. LVIII, p. 44, and, for their inter-relation with Harappans, please see Hindutva, Vol VII, June 1976, p. 1-7)

**Locale**

The whole of the *Aryana* (from Zagrus to Yamuna and from Turan to Arab sea) was the habitat of the Vedic people in this fateful period (2000—1900) B.C. of the world history. It is particularly important to note that Srinjaya (the great grandson of Divodasa) was the eponymous name of the Srinjayas who have been identified as the Zarenkas or *Zaranjes* of the Helmund region. The Divodasa dynasty therefore hailed originally from the 'Horahvaiti' region of Iran. Zarathustrian schism was still in future and the period was the Indo-Iranian period. *Unless it is remembered that Divodasa hailed from East-Central Iran, much of the following analysis will remain unintelligble.*

The hymns will now be analysed king-wise as follows :

1. Cyàvàna
2. Srinjaya
3. Sushravas
4. Istashwa
5. Indrota
6. Emusha
7. Divodasa
8. Sudasa

**8. 1. Cayamana (R.V. 6. 27 by Barhaspatya Bharadwaja)**

The Vedic Cayamana has become the Puranic Cyavana or Caidyavara. The hymn 6.27 recalls the victory of Cayamana over Hariyupia.

Hariyupia has now been identified as Harappa and its *Yavyavati* as its granary.[16] Three thousand people lost their

'a', then it could be derived from the Vedic Sush(n) a: Sush(n)a is a Vedic Asura who was opposed to Divodasa and was defeated by him It is possible that the son of the defeated Sus(n)a sought asylum from Divodasa and, thus, became his protege [It was quite common in this area to leave the son of the defeated king as the victor's representative and viceroy]

It is just possible that the Vedic Sush(n) a was the title of the Asura (Elamite) king of Susa and its Semetic equivalent was "insusi(n)ak"

**8 6. Emusha (=Emissun of Larsa) R V 8 (76 77 78) by Kurusuti**

The hymns 76,77 and 78 of the eighth mandala were by Kurusuti—which looks like a foreign (i e non-vedic) name.

In 8 78 2, which is *dana stuti*, the bard Kurusuti, prays for a *mana* gold Max Mueller[1] has admitted that if '*mana*' here be indeed the Sumerian '*mana*', the text would be very ancient.

The victory is described in the preceding hymn 8 77 (The hymns 77 and 78 are to be read together), where Indra slays Emusha

The word Emusha has been etymologised but it can be taken to be a name i e a simple proper noun This view is justified by the Aitihasika (i e historical) school which narrates a curious legend in Taittiriya Samhita (c 1500 B C). Wilson says—

"The *aitihasika* school takes the hymn literally The legend is given in Tait Samh VI 2 4 Indra said to the disguised Sacrifice

"I slay in inaccessible places ." (Sacrifice) said "thou sayst that those can slay in inaccessible places—if this be so, the boar Vamamosha (Vamamusha in Ch Br) *guards for Asuras, behind seven mountains, the wealth which the gods must obtain, prove title by slaying that boar!*"

"Indra, by a seizing a tuft of Darbha grass, pierced the mountains and slew him . "

"What can Ishtashwa, what can Ishtarashmi (what can) those who are now lords of the earth achieve (with respect) to the leaders of men, the conquerors of their foes ?" : Wilson.

In his notes Wilson says (p. 211, Vol II)

"What can etc. ...... The construction, however, is obscure, and the names, which are said to be those of Rajas, *are new and unsual*".

The Gathic transcript of Ishtashwa is Istaspa and therefore, one can surely identify it as the Gathic *Vistaspa*, the patron of Zarathustra.

Zarathustra in his Gatha Ustavaiti (Yasna-XLIV, 20, S.B E.), severely rebukes Kavis, Karpans and *Usijas*. Gathic Usijas (i.e. sons of Usija) became Vedic Ausija (=son of Usija). Hence, it is established that the Ustavaiti Gatha of Zarathustra and the R.V. 1.122 are complementry *and, therefore, isochronous*—one representing the arrogant victors and the other the wailing vanquished.

**8. 5. Indrota (=Indatu) R.V. 8.68 : Priyamtdha Angirasa**

The hymns (14-17) of R.V. 8.68 is a *danastuti* in which Priyamedha receives generous gifts from six princes; one of them is Indrota who is said to be a son (or a protege) of Atithigva i.e. Divodasa. Dumont[20] has identified the name Indrota as the Indatu (or Inder-uta) of the Babylonian (and other) cuniforms. At the relevant time, one finds Indatu-in-Susinak (an Elamite title and, therefore, an Aryan name) who became the king of Babylon in 1970 B.C. The third dynasty of Ur fell with Ibbi Sin in 2005 B.C. but Indatu became a king only in 1970 B.C.

Divodasa was a long-lived king who died in 1970 B.C. when he was about 80 years old. The hypothesis is that Divodasa (who hailed from Harahavaiti and was an ally of king Hushrava of Iran. (see 8.3)) was also instrumental in the fall of Babylon, when Ibbi Sin of the third dynasty of Ur fell to the onslaughts of the Aryan hords from Iran in 2005 B.C.

'In-Susinak' is an Elamite title of Susa. It is a purely Aryan title. If its prounciation is 'in-susi(n)ak' i.e. nasalised

(Many of the hymns are contemporary of the events It is of course, easy to see that no hymn can be earlier than Divodasa-Shambara, because their names are expressly mentioned)

From the unusually large number of these hymns and the extensive details given therein, it is clear that Shambara was one of the most important non-vedic kings of the time Wheeler and others[23] consider that these battles caused the end of the Harappan civilization *If so, it would certainly not be unreasonable to infer that Shambara was the king of Harappa (=Hariyupia), the capital of the empire*

Two specimens of these hymns (which are known to be contemporary) will now be given as exemplars

(a) *By Parucchepa Daiodasi (D N 64)* —

R V 1 130 (7-10) "For Puru, the giver of offerings, for the mighty Divodasa, those, Indra, the dancer (with delight in battle), hast destroyed ninety-nine cities For the sake of Atithigva, the fierce (Indra) hurled Shambara off the mountain, bestowing (upon the prince) immense treasures, (acquired) by (his) powers, all kinds of wealth (acquired) by (his) powers

"Indra, the manifold protector in battles, defends his Arya worshippers in all conflicts, he punished the neglecters of rites, he tore off the black skin (of the aggressor), ..

10 Showerers of the benefits, destroyers of the cities ; glorified, Indra by the descendents of Divodasa increase like the sun " : Wilson

(b) *By Vamadeva Gautama (D N 65)* —

4 26 3 "Exhilarated (by Soma) I have destroyed the ninetynine cities of Shambara, the hundredth I gave to be occupied by Divodasa when I protected him, Atithigva, at his sacrifice.

4 30 7. Wherefore, Vritrahan, opulent Indra, hast thou become incensed and slain the son of Danu on the earth.

14. Thou hast slain the Dasa Shambara, the son Kulitara, hurtling him from the mountain

Thus it was a historical battle in which king Emusha was smitten.

At the relevant time, one finds the king Emissum[22] of Larsa was defeated in (2004—1977) B.C.

One could, therefore, say that Divodasa was also instrumental in this case and, by joining hands with the western neighbours (Elamite, Gutis etc.), secured the fall of king Emissum of Larsa when a large booty was secured.

Kurusuti prayed for a *mana* gold after the victory—which means about a half pound of gold—a princely gift indeed.

**8. 7. Divodasa and Shambara**

The most important antagonists in this series of epic battles were Divodasa and Shambara. Next to the Indra-Vritra fights the battles between Divodasa and Shambara occupy the largest portion of the Rigveda. The following hymns, among, others, mention the battle :

**Rig-veda**

1. Savya Angirasa : 1.51.6; 53.10; 54.4.
2. Nodha Gautama : 1.59.6.
3. Kutsa Angirasa : 1.101.2; 103.; 112 (13-14)
4. Kakshivan Ausija : 1.116.18; 119.4.
5. Parucchepa Daivodasi : 1.130. (7-10)
6. Gritsamada Shaunaka : 2.12.11; 14.6.7; 19.6; 24.2.
7. Vamadeva Gautama : 4.26. (3-5); 4.30 (14,15,20,21)
8. Barhaspatya Bharadwaja : 6.16. (4-5-9); 18.13; 26(35); 43.1; 61.1.
9. Suhotra Bharadwaja : 6.31. (1-4)
10. Prastoka Sarnjaya : 6.47. (21-22)
11. Mitravaruni (Shakti and Parashara) Vasishtha : 7.18.20; 19.8; 99.5.
12. Kurusuti Kanva : 8.77; 8.78.
13. Saubhari Kanva : 8.103.2.
14. Amahiyua Angirasa : 9.61.2.

easy to see that the prize was the city of Hariyupia—the first city of the world It was earlier conquered by Cyavana, the father of Sudasa and, therefore, it looks that it was an united bid—all the Asura countries up to the Zagrous mountains took part in their attempt to recover Harappa—but the bid was foiled by Sudasa

Numerous tribes and mercenaries (mostly trans Indus) like Pakhtas (Pathans), Bhalanas (people of the Bolan pass) took part but three of these tribes are particularly interesting [*5]

1) Shigrus appear to be Zigrus they came from the Zagrus mountains of West Iran

2) Alinas were the Hellense, i e the Hellardic people, who appeared in history in c 2200 B C

3) Finally, the YAKSHUS they appear to be the Hyksos who appeared in History in c 1850 B C and destroyed the magnificient Egyptian civilization

Some archaeologists think (R M Sengupta, *personal communication)* that the Hyksos were the cemetery H people of Harappa, because many of the art motifs were common As the battle of ten kings took place in 1930 B C and the cemetery H people appeared thereafter in c 1800 B C. while the Hyksos appeared in c 1850 B C, the suggestion is not anachronistic

The equation Hyksos=Cemetery H people=Yakshus appears to be a plausible hypothesis If it could be established, then it would be a most important step towards establishing cross-contacts between three civilizations—Egyptian, Iranian and Hariyupean—in c 1900 B C

From the Indian point of view, king Sudasa and his victory in the battle of ten kings, is perhaps the most important event of Indian pre-history, *because by then the Vedic people and naturalized themselves in India*—as shown by the *nadi sukta* (R V 10 75)

If Zarathustra is taken to be D N 68 (i e isochronous with Sudasa), while Kakshiwan is D N 65, then the life span of

20. Thou hast overturned a hundred stonewalled cities for Divodasa the donor of oblations" : *Wilson*

It is thus clear that Shambara was the king who ruled through a hundred *puras* (cities and forts). Wheeler's hypothesis that these Vedic hymns describe the destruction of a hundred Harappan forts would be justified provided one accepts the natural corollary that Shambara was the king of Harappa : And *Wheeler's hypothesis is to be accepted till a better one is found.*

Incidentally, Shambara, the son of Kulitara, was a Danu, i.e., Puranic Danava. Harappa was apparently founded by the Danava king Vrishaparva (D.N. 4) whose daughter Sharmishtha married Yayati. However, this cannot be further persued now because the source book for the present study is the Rigveda.[24] It shows however, that Wheeler's hypothesis is not unfounded.

However, there is one minor point of difference. Death of Shambara did not mean the capitulation of Harappa. The war begun by Divodasa was a hundred years war, and known as the last Deva-Asura war. (In this war Dasaratha the father of Rama, fought on behalf of Divodasa against Timidhwaja, a Rakshasa alley of Shambara). Hariyupia (—Harappa) finally fell to Cyavana, the great grandson of Divodasa. (Para 8.1 *supra*) After the fall, the entire Asura world from Zagrus to Indus made a determined bid to win it back, but could not stand up to Sudasa, the son of Cyavana (vide 8.8 *infra*)

**8.8.** *Sudasa : The battle of ten kings* by Shakti and Parashara (Vasishthas) (R.V. 7.18, 33 and 83)

The battle of ten kings, was the most famous battle of the Rigveda in which ten kings and mercenaries from many lands participated. It was fought on the banks of the river Parushni and, therefore, near Hariyupia.

SUDASA emerged victorious in the battle which was fought in say, 1930 B.C. because Sudasa was born in 1961 B C. Looking at the concord of the kings and mercenaries, it is

| | |
|---|---|
| Srinjaya | The grandson of Divodasa who smote the Turanians Srinjayas remained in Iran and their country was called Zarenka This was the germ of the Shahnama story |
| Cyayana | also called Cayamana and Caidyavara He conquered Hariyupia (=Harappa) In the battle on the granary (=Yavyavati), 3000 warriors lost their lives |
| Sudasa | Entire Asura world made a determined bid thereafter to recover Harappa, but the bid was foiled by Sudasa in the famous battle of the ten kings fought on the south bank of the river Parushni (=Ravi) Sudasa was naturalized in India |
| Zarathustra | Vistaspa, the patron of Zarathustra is found in Ishtashwa a king mentioned by Kashivan Ausija, a contemporary rishi Zarathustra also mentions Usijas (=Ausijas) in the gatha Ustavaiti The two hymns being complementary—one representing the victors and the others the vanquished—the synchronism is established This proves the correctness of the Iranian tradition Zarathustra 600 years before the battle of Troy |

If any *one* of these synchronisms be accepted, then it would follow, of necessity, that Divodasa lived in 2005 B C Further that all the battle hymns of the Rigveda were composed in 2000—1900 B C The end of the Harappan power would then come in 1950$\pm$50 B C on the independent testimonies of the Rigveda and archaeology It would not be unreasonable, therefore, to say that :

Aryan invasion =End of Harappan culture
=Related hymns of the Rigveda
=Large scale destruction in the area
=2000—1900 B C

(B) If on the other hand, the archaeologists and the historians of the Western school still insist that the date of the end of

Zarathustra would be as under :

| | Date | Age |
|---|---|---|
| Zarathustra (D.N. 68) | | |
| Born | — 1951 B.C. | |
| Gatha Ustavaiti | — 1921 B.C. | (30 years) |
| Vahistoisti | — 1891 B.C. | (60 years) |
| Death | — 1880 B.C. | (70 years) |

This would tally with the Iranian traditions "Zarathustra—600 years before the battle of Troy".[26] As the battle of Troy is dated to about 1,280 B.C., the two systems synchronize within the margin of tolerance.

**Conclusions**

(A) The facts derived from the materials so far given can now be summarised as follows :

Divodasa: a. Hailed from Central Iran area on Horahvaiti (Helmund, Arachosia or Uttara Pancala.)

b. Entered into an alliance with Sushravas (Hushrava) of Iran who was the great-grand father of Viasta-spa, the patron of Zarathustra.

c. Was instrumental in the fall of the third dynasty of Ur in c.2005 B.C. After the fall of Ur, Indatu-in-sushinak, a protege of Divodasa, was made the viceroy and became the king in 1970 B.C. after the death of Divodasa.

d. Was instrumental in the defeat of king Emissum (=Emusha) of Larsa (c.2000 B.C.) and, finally,

e. Launched an attack on Shambara, the king of Harappa, Shambara was killed after forty years of grim struggle when his hundred cities and forts (*puras*=) were destroyed.

Befo~e concluding it is necessary to reiterate that the major objective of this investigation is chronology, and all other findings are merely incidental thereto The main investigation is about the dates of

1 The Aryan invasion
2 The end of the Harappan culture
3 The composition of the related Vedic hymns

It is found that Wheeler s model is acceptable provided it is conceded that a) Shambara, the Danu was the king of Harappa and b) all these events took place in 2000—1900 B C and not in 1500 B C as hitherto supposed *However, other variants of the model of the Vedic nonvedic conflicts are possible*

It may, for instance, be taken that the whole of Aryana (from the South Russia in the north to the Arabian Sea in the south, and from the Zagrus mountains in the west to the river Jamuna in the east) was the habitat of the Vedic Aryans, and it was not any foreign invasion but only an internal struggle for political supremacy or that the Divodasa family lived in the Delhi region (i e extreme east of Aryana or Uttara Pancala as taken by Pargiter) and it was a Vedic revolt spearheaded by Divodasa against the stagnant political *elite* ruling from the citadels of Harappa and Mohenjodaro or, for that matter it was an *westward* expansion of the Vedic people (starting from the Uttara Pancala i e the Delhi region, going westwards and leaving its mark after four hundred year in the Boghas Keui treaty) as proposed by Pargiter Other similar models are conceivable To find the factum behind one or the other model or hypothesis is really the province of the historian and the domain certainly lies beyond the field of the chronologist For a full and complete solution, one must wait for more materials, and above all for the decipherment of the Indus script However, it is quite obvious that *there is a Indo-Iranian history behind the Indo Iranian language and that that history must be studied exhaustively before the histories of the individual countries of Aryana could be properly grasped*

So far as the present study is concerned it is an investigation in chronology if the reader agrees that a re-examination

Harappan culture was 1500 B.C., then the *Vedic hymns aforementioned will not be relatable thereto* because they were composed in c.2000—1900 B.C. (Dynastic chronology, Astronomy and cross-contacts as herein demonstrated).

Similarly, if the Aryan invasion is dated to 1500 B.C. (as the western Indologists insist), then again, it will NOT be relateable to the Vedic hymns aforementioned, because they were composed 400-500 years earlier as shown above.

It is reiterated that the three problems have to be independtly solved and their iso-chronism conclusively established, before they could be related and identified : *Identification requires that iso-chronism is first proved.*

**(C) Date of Divodasa**

The date of Divodasa (D.N. 63; born 2051 B.C.) is settled by :

1. Dynastic chronology (c.2000 B C.)
2. Archaeology (extensive destruction in c.2000 B.C.)
3. Astronomy (Vamadeva=2000 B.C. and six other observations from the Rigveda)
4. End of Harappan culture
   Radio-carbon uncorrected=1700 B.C.
   MASCA corrected=1900—2000 B.C.
5. Cross contacts and synchronisms with a) the fall of the third dynasty of Ur (2005 B.C.), b) installation of Indatu (1970 B.C.) c) fall of Emissum of Larsa—(c.2000—1970 B.C.)

**9) Bharata battle :**

Parikshit, the son of Abhimanyu who was born just after the Bharata battle had the dynastic number 96. Hence, *thirty three* generations separated Parikshit from Divodasa and, therefore, 600 years would be the reasonable time-lag between them.

*If Divodasa lived and worked in 2000 B.C. as demonstrated above, the Bharata battle could be safely dated to c.1400 B.C.*

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18 H H Wilson, Antiquities and coins of Afghanistan and North India, p 124-5
19 a) Weber, Indian Antiquities Vol 3, p 22
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of the "conventional date of 1500 B.C." is necessary in order to find the factual date behind the convention, the purpose of this short appendix will be amply fulfilled.

**To sum up**

We thus get *Two* cross contacts in Indian protohistory :
Ashoka and 'Antiok, the yona raja' in c.257 B.C.
Divodasa of Helmund, Indatu of Ur, Hashrava of North Iran, and Emissum of Larsa in c.2005—1970 B.C.

*The chronological infrastructure of the protohistoric India should satisfy these two fixed points.*

*Full details of the Vedic geography, tribes, synchronisms and cross-contacts will appear in the author's forthcoming book 'Aryana, 2000-1900 B.C.'*

**To the archaeologists** :

" the valleys of the Saraswati and the Drishadvati must be regarded as very rich indeed in archaeological remains But the richness does not consist only in the number of discovered sites, but in their vast chronological and cultural range For they comprise relics of several millenia of Indian history right from The Harappa period to comparatively recent historical times "

A Ghosh

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*dramatic personae* of the Mahabharata and the Upanishads was the redoutable *rishi* Yajnavalkya as shown below

Vaisampayana was a desciple of Vyasa Tittiri and Yajnavalkya were both desciples of Vaisampayana (Yajnavalkya was Vaisampayana's sister's son) Yajnavalkya revolted, went away and worshipped Aditya to get his knowledge i e he studied at the Aditya sampradaya of king Janaka of Videha Janaka-Yajnavalkya dialogues and as well as the celebrated conference of king Janaka where Yajnavalkya defeated all comers were the warp and weft of which the web of the Brihadaranyaka Upanishad was woven Yajnavalkya had also known Uddalaka Thus, all the composers of the early Upanishads—Tittiri, Uddalaka and Yajnavalkya—were close contemporaries

Excessive etymological discussion—'etymologysing' if we might say so—is not erudition but pedantry this has been the bane of Indian history because simple proper names have been forcibly subjected to all kinds of fanciful etymology By making Tittiri a bird and Aditya the Sun—the simple and obvious facts of history have been lost Leaving aside the coloured glasses of etymology, the contemporaneity of Vyasa, Vaisampayana, Tittiri, Yajnavalkya and Uddalaka seems to be a self-evident fact which requires no proof—just as the visibility of Aditya requires no proof!

Thus, the Mahabharata battle was fought when Vyasa had just completed the canonization of the Rigveda, and the whole of the Vedic canon was being wound up by the adjunct Brahmanas and their 'ends'—called Veda antas or, in plain English Veda ends It is perhaps appropriate to append a fine-structure chronological study of the battle period in a diagram i e to give a diagramatic sketch of the analysis given in Ancient India This is done now (see frontispiece)

As Vyasa composed the Jaya within three years of the battle, and Vaisampayana recited the Bharata samhita latest within 36 years of the battle, it has to be conceded that the earlier sections of the Mahabharata (vide chap X) were actually composed during the last phase of the Vedic age when the Upanishads were being composed

# Appendix II

## *Kuru-kshetra*

It is often said that the Mahabharata belongs to the 'Iron Age' and that the Iron age in India cannot be pushed back beyond 1000 B.C. This objection, however, is not as formidable as it looks.

It is not known as to how the popular belief grew that the Mahabharata belongs to the Iron age. Perhaps it is due to the fact that in the popular translations of the Mahabharata the word *'Ayas'* is translated as iron.

A careful reading of the Mahabharata —particularly of the older sections as mentioned in the Chap. Xth—shows that the word *'loha'* is *not* mentioned in the texts. The word actually used in (Udyogaparva, Yuddhaparva and Striparva) is AYASA and derivatives thereof (e.g. ayasmayam, ayomukham etc).

Ayas is a very ancient word going back to the Rigveda. In that text, it does not mean iron at all but copper (Dandekar quoted in Mahabharata, myth or reality, p. 142) Hence, if the Mahabharata belongs to the Vedic age as herein proposed, then, only the Vedic meaning is to be given to its words : Mahabharata would belong to the Vedic, and, therefore, the copper age.

It will be apparent to any reader who studies the first chapter of the book 'Ancient India (pp. 1-20)' that Yajnavalkya, Tittiri, Uddalaka—the leading composers of the early Upanishads—were all active in those very days when the battle was being fought. The link between the

of the find are

1 Excavations show late Harappan ware and painted gray ware (PGW) in juxtaposition

2 The remains are 2 9 metres in total thickness

3 Late Harappan ware is found throughout The PGW is found in the upper third of the stratum—in juxtaposition with the late Harappan ware

4 A thirteen roomed complex with a courtyard has been uncovered showing that it must have belonged to some very important person of the Kuru realm If of ritual significance, even then it must have been very important

5 *Bhaguanpura shows no trace of iron It was a purely copper culture*

**The Puranas**

The Puranas suggest that

1 The land between Saraswati and Drishadvati was the land of the Kurus It was the Kurukshetra

2 It belonged to the late Vedic age (to be more specific, the Vth layer of the Rigveda coming after the IVth or the Middle Vedic age which marked the transition of the Aryans into India (vide Appendix 1)

3 The kingdom was founded by Kuru, the son of Sambarana According to the Pargiter, the dynastic number of Sambarana was 69 and that of Kuru was 71

4 Sambarana was defeated by Sudasa, the victor of the battle of the ten kings He fled to the Indus region

**Rigveda**

1 The Rigveda mentions Kuru-shravana who has been rightly identified (Pusalkar) as Kuru Sambarana The bard was Kavasha Ailusha Kavasha was turned out in a sacrifice held on the bank of Saraswati Ailusha became a rishi by worshipping Saraswati

Hence, in case of doubt, the words of the early Mahabharata should receive their Vedic meanings and not their classical meanings as given in the lexicons—some of which were composed fifteen hundred years after the battle.

If this were all, then the present section would not have been written—because the objection is illusory. However, there is something more to it. The word 'Loha' is mentioned in two late Vedic texts. In the Nighantu, Yaska mentions Loha as a hiranya i.e. as a rare metal. In the Shukla Yjaurveda (and also the Taittiriya samhita), Loha is mentioned in the *Camaka prasna* where the metal is worshipped. It could perhaps be said the Musalaparvan—which was composed sometime after the battle, when the Jaya was already composed by Vyasa—the word 'ayo-mukha' should get the meaning of iron The fact of the matter is that iron was known to India by about 1400 B.C.—though only as a rare metal. It was not used in common, and, therefore, it was not yet the Iron age. (For instance, even today, the copper utensils are used in Vedic rituals and iron is a taboo). Iron was a rare metal (Yaska), an object of veneration and worship (Tittiri and Yajnavalkya) and an object of evil superstition (Musala parvan where the use of iron causes the wholesale destruction of the Yadavas).

This is the proper perspective in which the question is to be judged. The balance of evidence and the probabilities suggest that it was the Vedic age—the last phase of the Vedic age : it was the copper age : it was the when iron was just coming to India *via* the southern route (Makran, Saurashtra i.e. Dwarvati region). It would be unsafe, therefore, to begin with a presumption that the Mahabharata belonged to the iron age and, therefore, *must* be later than 1000 B.C. Let us keep the mind open.

**Bhagwanpura :**

A new turn has been given to the Indological research by the brilliant work of Jagatpati Joshi at Bhagwanpura, which is situated in the heart of Kurukshetra. About 18 Km. from the present town of Kurukshetra, the ruins stand on the dried up bed of the river Saraswati. The archaeological facts

| *Dynastic number* | *King (Kurus)* | *Rishi* | *Date of birth* B C |
|---|---|---|---|
| 81 | Ayutayus | | 1727 |
| 82 | Akrodhana | | 1709 |
| 83 | Devatithi | Vagambhrini | 1691 |
| 84 | Riksha | | 1673 |
| 85 | Bhimasena | | 1655 |
| 86 | Dilipa | | 1637 |
| 87 | Pratipa | | 1619 |
| 88 | | | 1601 |
| 89 | Ristisena | | 1583 |
| 90 | Santanu—*Satyavati* | (Matriarchy) | 1550 |
| 91 | Bhisma (1524 B C) | | 1524 |
| 92 | Vicitravirya—*Amba, Ambalika* Vyasa (1520 B C) | | 1508 |
| 93 | Pandu—*Kunti* | | 1486 |
| 94 | Pandavas—*Draupadi* | | 1466 |
| 95 | Abhimanyu | | 1442 |
| 96 | Parikshit | | 1424 |
| 97 | Janamejaya II | | 1406 |

**Mahabharata**

The story of the Mahabharata begins when the Kuru king Santanu married Satyavati, the non Aryan princess who insisted that the rules of matriarchy shall prevail and that her son and not Bhisma shall inherit the throne Satyavati was an unusually strong personality and dominated the scene in her life Matriarchy prevailed for four generations—as is evident by the *kanina gudaja* and the *kshetraja* putras and the polyandrous marriage of Draupadi These marriages and sons were not looked down upon in matriarchy, and the unusual importance of Vyasa can be understood only in terms of matriarchy The dynastic number of Santanu and Satyavati would be 90 and 91 respectively

It is submitted that the painted gray ware represents this new strain which was introduced into the Aryan fold by

2. Kuru's son was Parikshit I and Parikshit's son was Janamejaya I, who performed an important sacrifice with Indrota Devapi Shaunaka as the priest.

3, *Janamejaya performed the sacrifice at Asandivat.* It is therefore possible that the capital founded by Kuru-Janmejaya was Asandivat itself.

4· Some times, the Vedic river Drisadvati was also called the river Ganga. (Udaivir Shastri - *personal comunication.)*

**Radio-carbon dates**

The radiocarbon dates of Harappa has been drastically revised upwards due to MASCA correction. Astronomy also gives a higher date. Both these methods give the end of Harappa at c.1900 B,C. Roy has calculated the date of Dasarajana battle at c.1930 B.C. marking the end of Harappan culture,

**Astronomical**

According the astronomical-cum-dynastic chronology the dates of birth of the Kuru kings are as follows :

| *Dynastic number* | *King (Kurus)* | *(others)* | *Rishi* | *Date of birth* (B.C.) |
|---|---|---|---|---|
| 68. | ... | (Sudasa) | Parashara Vasishtha I | 1961 |
| 69. | Sambarana | (Sahadeva), | | 1943 |
| 70. | ... | (Somaka) | | 1925 |
| 71. | **Kuru** | | | 1907 |
| 72. | Parikshit I | | | 1889 |
| 73. | ... | | Indrota Devapi Shaunaka, Kavasha Ailusha | 1871 |
| 74. | Janamejaya I | | | 1853 |
| 75. | Bhimasena | | | 1835 |
| 76. | Viduratha | | | 1817 |
| 77. | Sarvabhauma | | | 1799 |
| 78. | Jayatsena | | | 1781 |
| 79. | Aradhin | | | 1763 |
| 80. | Mahabhauma | | | 1745 |

(It should however be remembered that the terms Uttara-Kuru, Uttara-Pancala and Uttara-Koshala have altogether different conotation They represent the ancient lands of these three peoples across the Sindhu and carry the memory of the Indo-Iranian days and beyond )

The river Yamuna divided the lands of the Kurus and the Pancalas The holy river of the Kurus was the Saraswati while the holy river of the Pancalas was the Ganga Kurus and Pancalas lived sometimes in amity (and sometimes quarreled)—for twenty-five generations from Kuru (D N 71) to Parikshit (D N 96) They were however political rivals and, finally, when the Pancalas princess Draupadi was married to the five brothers, the problems of inheritance became complex and the society blew off it the Bharata battle In absolute terms, the Kuru-Pancalas remained dominant for about 500 years (25 generations) from 1900 B C to 1400 B C, after which the Pandavas ruled for about a hundred and fifty years

*Further research* The astute reader will immediately realise that it is queer that the capital of the Kurus (alleged to be Hastinapur)—is situated in the heart of the Pancala region Whether Hastinapur of today was at all the capital of the Kurus is to be scientifically examined It is more probable that the Kuru capital was somewhere on the Saraswati Drishadvati—at Bhagwanpura or somewhere near about It is quite probable that Asandivat the town where Janmejaya performed his sacrifice—was the real Kuru capital and remained so upto the Bharata battle This would explain why the field of battle was Kurukshetra as shown below

In the battle, Kurus were helped by the Udicyas—the northerners (and Jaidratha ) The Pandavas were helped by the Pracyas—Eastern countries and the Yadavas The main participants were—Kurus and their northern allies on the one side and Pancalas (Drupad), Matsyas (Virat) and the Yadavas (Muttra) and of course Pandavas (Delhi) on the other Hence, the natural battlefield was Kurukshetra—The junction of the boundaries of all there lands

Hastinapur is mentioned repeatedly in the Shalya, Sauptika and Stri parvans, i e towards the close of the battle These

Satyavati. They were probably the Eastern Nagas who had always a soft corner for the Pandavas. The Western Nagas i.e., the Takshakas, however, were always fierce enemies of the Pandavas and it is noteworthy that the Mahabharata begins with the burning of the Khandavaprastha and ends with the sack of Takshasila (i.e, the capital of the western Nagas) where the Bharata Samhita was recited.

It is clear now that there was an interval of twenty-five generations between Parikshit and Kuru, the founder of the Kuru dynasty in the land known as Kurukshetra after him. His date of birth was 1907 B.C. and therefore the kingdom of Kurukshetra was founded some where in (1850—1800)—in the doab of the rivers Saraswati and Drishadvati. This was the late Vedic age (Vth layer) and hence the importance of the river Saraswati as the river par *excellence.*

*Pancalas (Srinjayas and Somakas).* The Divodasa dynasty had both Srinjaya and Somakas among their kings. Their descendents were called *Srinjayas* and *Somakas.* This is the name given to the *Pancalas* in the Mahabharata itself.

It is clear from the appenpix I that they (i.e, the kings from Divodasa to Sudasa) came to India earlier than the Kurus. The Divodasa dynasty struggled against the Harappans who were finally conquered in 1930 B.C.

Kurus came to India immediately thereafter. Their first king Sambarana was repulsed by Sudasa, and retreated to the Sindhu. After Sudasa, however, the Pancalas could not further resist the invasion of the Kurus : Pancalas crossed the river Yamuna and established themselves mainly in the Ganga-Yamuna doab, but later, they crossed Ganga also. Finally, the land north and east of Ganga was called North Pancala while the land south and west of Ganga was called south Pancala in the Puranas.

The Kurus remained in Kurukshetra (Saraswati-Drishadvati doab)—west of the river Yamuna. The river Yamuna thus remained the dividing line between the Kurus and the Pancalas.

5) The Kurus did not know the use of the iron and their culture was predominantly a copper culture

6) Bhagwanpura excavations show that the late Harappan ware represents the early Kurus This suggests that the cleavage between the Kurus and the Harappans was not as sharp as between the Srinjaya Somakas and Harappans Probably the Pancalas adopted the OCP while the Kurus adopted the late Harappan ware

7) The Pandavas represent a new element in the Kuru fold It was matriarcal and inimical to the main line The Pancalas (Drupad) took their side as did the Matsyas (Virat) (There was relationship by marriage)

8) When the final battle was fought the Northerners and North westerners joined hands, while the Easterns and Southerners took the side of the Pandavas The battle was fought at the junction of the boundaries of the contending lands

9) The location of the Kuru capital (called Hastinapur, Gajahvayam Nagasahavyam etc all signifying elephant) is yet to be satisfactorily determined

Kurukshetra battle was a momentous event—a watershed in Indian history It saw the end of the Vedic age proper, and the emergence of the Puranic age The great battle can thus be also looked upon as the final struggle after which the Indian spirit and the Vedic spirit were fused in a great fire, and the spirit of unified India emerged In this great fusion Vyasa—Krishna—Yajnavalkya—Ugrashrava Sauti were the four great architects The Naimisharanya conference where the History (Puranas and Mahabharata) was recited is of as great importance in understanding India as the Bharata battle itself

Bhagwanpura requires, shall we say, a little careful approach It is imperative that it should be studied by a team in which the traditional Indian scholars are not ignored

Puranas are written in simple language, yet in majestic grandeur—an unmistakable stamp of Vyasian authorship. They must belong to the first layer.

In these *parvans*, the heroes go frequently from the battle-field to Hastinapur. Krishna does the trip twice on that fateful night of grim nocturnal carnage.

It is curious that the journeys are all performed in *rathas* (horse drawn chariots). A boat is never mentioned. *Yamuna is never crossed.* Yet it now is said that Hastinapur is on the east of Yamuna; miles away from Kurukshetra—and across the Yamuna !!

The puzzle demands a satisfactory solution.

This paragraph is only written to show that the exact geography of the participants is important and should be redetermined carefully before final analysis of the Mahabharata is undertaken. Raising of valid questions is as important in scientific research as providing plausible hypotheses. Janaka was the wisest king because he raised valid questions.

**To sum up :**

1) The Kurus came to India after the Srinjaya-Somakas, somewhere in 1900—1800 B.C. They retained their contacts and connections with Gandhara, Bahlika and other countries across the Indus.

2) Kuru founded the Kuru dynasty in c.1900 B.C. His grandson Janamejaya established the capital at Asandivat in c.1850 B.C.

3) The Kuru country or Kurukshetra was principally the Saraswati-Drishadvati doab, bounded in the east by the river Yamuna. Across Yamuna lay the kingdom of the Pancalas. Bhagwanpura on the river Saraswati, now excavated by Joshi must have been an important centre of the Kuru culture. It was near Asandivat and perhaps was Asandivat itself.

4) The Kurus patronised the Rigveda. Saraswati (Indian) became the river *par excellence* during this period. The Kurus belonged to the later Vedic age.

| 1 | 2 | 3 |
|---|---|---|
| 91 | Shantanu | शान्तनु |
| 92 | Vicitravirya | विचित्रवीर्य |
| 93 | Pandu | पाण्डु |
| 93 | Dhritarashtra | धृतराष्ट्र |
| 93 | Vidura | विदुर |
| 94 | Yudhisthira | युधिष्ठिर |
| 94 | Bhima | भीम |
| 94 | Arjuna | अर्जुन |
| 94 | Karna | कर्ण |
| 92 | Satyavati | सत्यवती |
| 93 | Kunti | कुन्ती |
| 94 | Draupadi | द्रौपदी |
| 95 | Abhimanyu | अभिमन्यु |
| 96 | Parikshit | परिक्षित् |
| 97 | Janamejaya | जनमेजय |
| 98 | Shatanika | शतानीक |
| 99 | Aswamedadatta | अश्वमेधदत्त |
| 100 | Adhisima krishna | अधिसीमकृष्ण |
| 101 | Nicakshu | निचक्षु |

*Kings and rishis (Miscellaneous)*

| | | |
|---|---|---|
| 47 | a) Garga | गर्ग |
| | b) bridha | वृद्ध |
| 91 | a) Mahidasa | महिदास |
| | b) Aitareya | ऐतरेय |

# GLOSSARY OF PRONUNCIATION

| Dynastic number | Ordinary script | Nagari |
|---|---|---|
| 1 | 2 | 3 |
| 1 | Saraswati | सरस्वती |
| — | Narayana | नारायण |
| — | a) Jaya<br>b) Bharata-samhita<br>c) Mahabharata<br>d) Mahabharatee | जय<br>भारत-संहिता<br>महाभारत<br>महाभारती |
| 92 | a) Vyasa<br>b) Satyavati-suta<br>c) Krishnadwaipa-yana<br>d) Vishala-buddhi | व्यास<br>सत्यवतीसुत<br>कृष्णद्वैपायन<br>विशाल-बुद्धि |
| 91 | a) Bhisma<br>b) Pitamaha | भीष्म<br>पितामह |
| 94 | a) Krishna<br>b) Devakiputra<br>c) Angirasa<br>d) Narayana<br>e) Vasudeva | कृष्ण<br>देवकी-पुत्र<br>आङ्गिरस<br>नारायण<br>वासुदेव |
| 94 | a) Yajnavalkya<br>b) Vajasaneya | याज्ञवल्क्य<br>वाजसनेय |

| 1 | 2 | 3 |
|---|---|---|
| 97 | b) Paushkarasadi | पौष्करसादि |
| 35 | e) Pokkharasati | पोक्खरसाति |
| *Historical* | | |
| 145 | a) Buddha | बुद्ध |
| | b) Siddhartha | सिद्धार्थ |
| | c) Gautama | गौतम |
| | d) Gautamiputra | गौतमीपुत्र |
| 141 | a) Nanda | नन्द |
| | b) Mahapadma | महापद्म |
| 135 | Bimbisara | बिम्बिसार |
| 136 | Ajatashatru | अजातशत्रु |
| 145 | Ashoka | अशोक |
| 155 | Pushyamitra | पुष्यमित्र |
| 152 | a) Katyayana II | कात्यायन |
| | b) Vararuci | वररुचि |
| 135 | Kaccayana | कच्चायन |
| 155 | a) Patanjali II | पतञ्जलि (II) |
| | Mahabhasyakara | महाभाष्यकार |
| *Egypt* | | |
| | Mishr (Egypt) | मिश्र |
| | Amon (?) | यमन् |
| | Aton | अतन |
| | Ti, Tyi etc | थेयाँ |
| | Akhenaton | आखेनाटन |
| | Syrian (?) | आसुरिवासिन |

| 1 | 2 | 3 |
|---|---|---|
| 65 | Valmiki | वाल्मीकि |
| 95 | a) Ganesha | गणेश |
| | b) Heramba | हेरम्ब |
| 94 | Carvaka | चार्वाक |
| | Kaushitaka | कौषितक |
| 94 | Kahola | कहोल |
| 100 | Panin | पणिन् |
| | Panini | पाणिनि |
| | Pingala | पिङ्गल |
| | Apastamba | आपस्तम्ब |
| | Apishali | अपिशलि |
| | Shakatayana | शाकटायन |
| | Baudhayana | बौधायन |
| 102 | Lagadha | लगध |
| 103 | Suci | शुचि |
| | Aryabhat | आर्यभट |
| | Varahamihira | वराहमिहिर |
| | Brahmagupta | ब्रह्मगुप्त |
| | Shashankabhushana | शशाङ्कभूषण |
| 1 | a) Manu | मनु |
| | b) Vaivasvata | वैवस्वत |
| 2 | Nabhanedistha | नाभानेदिष्ठ |
| 41 | Kapil | कपिल |
| 44 | Sagara | सगर |
| | a) Patanjali I | पतञ्जलि (१) |
| | b) Naga | नाग |
| | c) Yoga-sutrakara | योगसूत्रकार |
| 96 | a) Pushkarasari | पुष्करसारि |

| 2 | 3 |
|---|---|
| Kaushıtaki | कौशितकि |
| Isha | ईश |
| Katha | कठ |
| Prashna | प्रश्न |
| Mundaka | मुण्डक |
| Mandukya | माण्डुक्य |
| Shvetasvatara | श्वेताश्वतर |
| *School of learnings* | |
| 1) Kuru | कुरु |
| 2) Pancala | पाञ्चाल |
| 3)a) Naımısharanya | नैमिषारण्य |
| b) Atharvana | आथर्वण |
| 4)a) Videha | विदेह |
| b) Adıtya samprdaya | आदित्य सम्प्रदाय |
| *Confererces* | |
| 1. a) Maya-sabha | मय-सभा |
| b) Rajasuya-sabha | राजसूय-सभा |
| 2 Sarpa-satra | सर्प-सत्र |
| 3 Janaka-yajna | जनक यज्ञ |
| 4. Naımisharanya-satra | नैमिषारन्य सत्र |
| *Rishı Lists* | |
| 1) Vıdya-vamsa | विद्या-वंश |
| 2) Rishi-tarpana | ऋषि-तर्पण |

| 2 | 3 |
|---|---|
| *Subject & Books* | |
| Sankhya | सांख्या |
| Yoga | योग |
| Gita | गीता |
| Bhagavata | भागवत |
| Itihasa | इतिहास |
| Purana | पुराण |
| Smriti | स्मृति |
| Shruti | श्रुति |
| Darshana | दर्शन |
| a) Sutra | सूत्र |
| b) Akshasutra | अक्ष सूत्र |
| c) Griyha-sutra | गृह्य सूत्र |
| d) Shrauta-sutra | श्रौत सूत्र |
| e) Dharma-sutra | धर्म सूत्र |
| Ramayana | रामायण |
| Candi | चण्डी |
| Kathasaritsagara | कथासरित सागर |
| *Upanishad* | |
| a) Upanishad | उपनिषद |
| b) Vedanta | वेदान्त |
| c) Brahmavidya | ब्रह्मविद्या |
| Kena | केन |
| Taittiriya | तैत्तिरीय |
| Vrihadaranyaka | वृहदारण्यक |
| Chandogya | छान्दोग्य |
| Aitareya | ऐतरेय |

| 1 | 2 | 3 |
|---|---|---|
| | c) Kritikshana | कृत्तिक्षण |
| | d) Dharmadhwaja | धमध्वज |
| 94 | a) Yajnavalkya | याज्ञवल्क्य |
| | b) Vajasaneya | वाजसनेय |
| 90 | a) Naciketa | नचिकेता |
| | b) Kumara | कुमार |
| | c) Yamayana | यामायन |
| 95 | Asuri | आसुरि |
| 96 | a) Yaska | यास्क |
| | b) Asurayana | आसुरायन |
| 97 | a) Prashniputra | प्राश्नीपुत्र |
| | b) Asuriyasin | आसुरिवासिन |
| 135 | Gautamiputra | गौतमीपुत्र |
| Ladies | | |
| 24 | a) Haimavati | हैमवती |
| | b) Uma | उमा |
| | c) Bahu-shobhamana | बहुशोभमाना |
| 94 | a) Sulabha | सुलभा |
| | b) Yogini | योगिनी |
| | c) Maitreyi | मैत्रेयी |
| 94 | a) Gargi | गार्गी |
| | b) Vacaknavi | वाचक्नवी |
| | c) Brahmavadini | ब्रह्मवादिनी |
| 94 | a) Maitreyi | मैत्रेयी |
| | b) Brahmavadini | ब्रह्मवादिनी |
| | c) Sulabha | सुलभा |
| 94 | a) Katyayani | कात्यायनी |
| | b) Striprajna | स्त्रीप्रज्ञा |
| | c) Mahasaraswati | महा-सरस्वती |

| 1 | 2 | 3 |
|---|---|---|
| *Kuru-School* | | |
| 91 | Parashara | पराशर |
| 92 | Vyasa | व्यास |
| 93 | Shuka | शुक |
| 94 | a) Vaisampayana | वैशम्पायन |
| | b) Caraka | चरक |
| 94 | Romaharshana | रोमहर्षण |
| 94 | Tittiri | तित्तिरि |
| 943 | Jaimini | जैमिनि |
| 93 | Paila | पैल |
| 93 | Sumantu | सुमन्तु |
| 95 | Katha | कठ |
| 95 | Badarayana | बादरायण |
| *Pancala School* | | |
| 93 | Jaimini | जमिनि |
| 93 | Uddalaka | उद्दालक |
| 93 | a) Shakalya | शाकल्य |
| | b) Vidagdha | विदग्ध |
| | c) Padakrit | पदकृत् |
| 93 | Narada | नारद |
| 94 | Shvetaketu | श्वेतकेतु |
| 95 | Tandi | तण्डि |
| *Aditya Sampradaya* | | |
| 83 | Vagambhrini | वागाम्भृणी |
| 94 | a) Janaka | जनक |
| | b) Rajarshi | राजर्षि |

| | 2 | 3 |
|---|---|---|
| *Countries & Peoples* | | |
| | Magadha | मगध |
| | Videha | विदेह |
| | Gandhara | गन्धार |
| | Naga | नाग |
| | Taskhaka | तक्षक |
| | Gandhari | गन्धारि |
| | Kuru | कुरु |
| | Pancala | पाञ्चाल |
| *Castes* | | |
| | Varna | वर्ण |
| | Brahmana | ब्राह्मण |
| | Kshatriya | क्षत्रिय |
| | Vaishya | वैश्य |
| | Shudra | शुद्र |
| | Hindu | हिन्दु |
| *Stars, calendars and astronomy* | | |
| | Nakshatra | नक्षत्र |
| | Rohini | रोहिणी |
| | Jyeshtha | ज्येष्ठा |
| | Magha | मघा |
| | Krithika | कृत्तिका |
| | Ashlesha | आश्लेषा |
| | Purva-asadha | पूर्वाषाढा |
| | a) Dhanistha | धनिष्ठा |
| | b) Shravishtha | श्रविष्ठा |
| | Dhruva | ध्रुव |

| 1 | 2 | 3 |
|---|---|---|
| | d) Mahamaya | महामाया |
| | e) Maha-yogini | महायोगिनी |
| 96 | a) Pratitheyi | प्रातिथेयी |
| | b) Vadava | वडवा |

*Atharvana (Naimisha) School*

| | | |
|---|---|---|
| 93 | a) Ghora | घोर |
| | b) Angirasa | श्रांगिरस |
| 93 | Sumantu | सुमन्तु |
| 94 | Pathya | पथ्य |
| | Kabandha | कबन्ध |
| 97 | a) Shaunaka | शौनक |
| | b) Mahashala | महाशाल |
| 96 | Pippalada | पिप्पलाद |
| 98 | a) Ashvalayana | श्राश्वलायन |
| | b) Kaushalya | कौशल्य |
| 99 | a) Katyayana (I) | कात्यायन |
| | b) Kabandhi | कबन्धी |
| 94 | a) Krishna | कृष्ण |
| | b) Angirasa | श्रांगिरस |
| | c) Ghora | घोर |

*Places*

| | |
|---|---|
| Kurukshetra | कुरुक्षेत्र |
| Hastinapura | हस्तिनापुर |
| Indraprastha | इन्द्रप्रस्थ |
| Khandavaprastha | खाण्डवप्रस्थ |
| Takshasila | तक्षशिला |
| Harappa | हरप्पा |
| Hariyupia | हरियूपिया |
| Mathura | मथुरा |
| Dwaraka | द्वारका |

| 1 | 2 | 3 |
|---|---|---|
| **Aryana** (c.2000—1900) | | |
| *Geography* | | |
| | a. Harappa | हरप्पा |
| | b Hariyupia | हरियुपिया |
| | a. Rasa | रसा |
| | b. Ranha | रहा |
| | a. Sarayu | सरयु |
| | b. Horayu | हरयु |
| | a. Saraswati | सरस्वती |
| | b Harahvaiti | हरह्वती |
| | a. Sindhu | सिन्धु |
| | b Sapta-sindhava | सप्त-सिन्धव |
| | c. Hafta-hindu | हफ्त-हिन्दु |
| | a Urmya | उर्म्या |
| | b Urmiya | उर्मिया |
| | a Kubha | कुभ |
| | b Kabul | काबुल |
| *Tribs* | | |
| | a Srinjaya | सृञ्जय |
| | b Zaranjes, Zarenka, Daranjiana | (Iranian) |
| | a Vaikarna | वैकर्ण |
| | b. Vehrkana | (Iranian) |
| | a Zagrus | (Iranian) |
| | b Shigru | शिग्रु |
| | a Hellen | (Greek) |
| | b Alina | अलिन |
| | a Yakshu | यक्षु |
| | b Hyksos | (Egyptian) |

| | |
|---|---|
| Masa | मास |
| Paksha | पक्ष |
| Yuga | युग |
| Kali | कलि |
| Parivatsara | परिवत्सर |
| Samvatsara | सम्वत्सर |
| Purnima | पूर्णिमा |
| Amavasya | अमावस्या |
| Patipada | प्रतिपद |
| Dwitiya | द्वितीया |
| Tritiya | तृतीया |
| Caturthi | चतुर्थी |
| Pancami | पञ्चमी |
| Dashami | दशमी |

*Months*

| | |
|---|---|
| Magha | माघ |
| Kartika | कार्तिक |

| 2 | 3 |
|---|---|
| Satee | सती |
| Tara-vyuha | ताराव्युह |
| *Star-deities* | |
| Vasu | वसु |
| Sarpa | सर्प |
| Agni | अग्नि |
| Prajapati | प्रजापति |
| Indra | इन्द्र |

**III Purana and Itihasa**



**IV Chronological framework of Indian Protohistory**



**V Baudhayana and the sutra literature**



**VI The king list and the Rishi list : Kali Age**



**VII Mahabharata : its creators**

| 1 | 2 | 3 |
|---|---|---|
| | a. Parshu (Parshuas) (Persians) | पर्शु, पार्शव |
| | a. Prithu (Parthians) Parthava | पपृथु, पार्थव |
| | a. Anaus | (Turanian) |
| | b. Anava | आनव |

*Kings, Rishis etc.*

| | | |
|---|---|---|
| | a. Vasishtha | वसिष्ठ |
| | b. Vahishtha | (Gathic) |
| | a. Mitrau | मित्रायु |
| | b Mihrav | (Gathic) |
| | a. Saum | (Gathic) |
| | b. Soma | सोम |
| | a. Indrota | इन्द्रोत |
| | Indatu | Babylonian cuniform |
| | a. Sush(n)a | सुष्ण |
| | b. Sushi(n)ak | (Elamite, Babylonian) |
| | a. Sushrava | सुश्रवस |
| | b. Hushrava | Gathic (Iranian) |
| | a. Ishtashwa | इष्टाश्व |
| | b. Vistaspa | Iranian (Gathic) |
| | a. Emuhsa | एमुष |
| | b. Emissum | Larsa cuniform |
| | a. Mana | मना |
| | b. Mina | Mesopotemian, Egyptian etc |

**Appendix I Aryan invasion and the Rigveda a chronological reappraisal**



**Appendix II Kurukshetra**

# Subject Index